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THE  
AGRICULTURAL  
MAGAZINE,  
FOR  
1804.

A MONTHLY PUBLICATION,

DEVOTED TO

*Farmers, and to Rural Affairs.*

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"He that causes two Blades of Grass to grow where only one grew before, is, so far, a Creator."  
SWIFT.

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VOL. X.

FROM JANUARY TO JUNE,

INCLUSIVE.

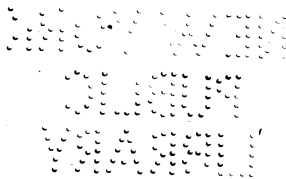
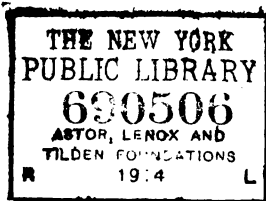
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G. E. P.



## PREFACE.

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**WE** have now to make our Periodical Address to our Readers, for the favourable Reception of the Tenth Volume. Since the commencement of our Work, we have seen with increasing pleasure, the regard our peaceful subject has attracted from all orders of men in this country. It has formerly been applied as a stigma to the national taste, that while our insular situation has encouraged the pursuits of trade and navigation, we have neglected the improvement of Agriculture. We do not admit that this censure has at any time been applicable to the people of England; but the tongue of calumny must be for ever silenced, now that it is discovered, that every department of Science and Philosophy is rendered subservient to the duties and occupations of the field. It was not expected by foreigners, that a great Commercial Nation, whose marine reposes on the yielding bosom of the ocean in every part of the globe, should for a while suspend the spirit of adventure to attend to the more permanent advantages of the rural art. The economists of a neighbouring state, since the time of the great Colbert, have never rightly appreciated the comparative merit of the mercantile and agricultural systems: it is to us a subject of congratulation and of triumph, that in this Monarchy, neither of these have received the derogatory distinction of the unproductive class, or have been degraded by any humiliating appellation.

It will be recollected with pleasure, that in the course of the last thirty years, a mean of communication has been established by canals, which renders every part of the country accessible for all the species of produce; and supplies the bounties of nature on equal terms at the door of every man in the kingdom. Thus twelve maritime districts have been formed, by which the export and import of grain have been regulated, and a large increase of the bounty has been

*proposed, to be founded, not on local circumstances, but on the general average of the British markets.\**

*It will scarcely be credited, that 1197 bills of inclosure have passed the Houses of Parliament within the last few years, and thus a wide field has been opened for the direction of the public industry, and a rental of some millions has been added to the produce of the land.*

*But our present purpose is not to enumerate the general benefits which have been obtained, and the particular security which has been derived from the just and enlightened principles on which the rustic concerns are now conducted; we may be permitted, however, to express to our Readers, that with these gratifying prospects before us, we continue our periodical labours with additional satisfaction, and we hope, that not less encouragement will be felt by our Correspondents, that every returning season may render our work more deserving the regard and patronage of the Public.*

*We have sometimes requested the managers of Agricultural Societies, to transmit to us their proceedings, which we have unaffectedly distinguished, as "among the most valuable materials of our work." After the attention we have received in this respect, it might imply some omission on their parts, if we were to renew our solicitations, but we should do a serious injury to our own feelings, if we did not avail ourselves of this opportunity to express to them, in respectful terms, our gratitude.*

*We shall now take leave of our Readers and Correspondents, sincerely desirous that they may enjoy an abundant harvest, and that the result of their labours may be advantageous to themselves and to their country.*

E.

\* We have attended the debates on this subject in the Legislature, and shall report the progress and result to our Readers.







W. H. & S. D. 1864.

*THE PRIZE HOG, bred & fed by Mr. Whittle, Aged 15 Months.*

*Published under authority by the Agricultural Society.*

# THE AGRICULTURAL MAGAZINE.

No. LIV.]

JANUARY, 1804.

[Vol. X.

## WEIGHT OF THE PRIZE PIG AT THE EXHIBITION OF CATTLE AT SMITHFIELD,

WITH A PLATE ANNEXED.

**T**HE engraving which accompanies this number, is from a drawing taken by our artist, of the fat Pig of Mr. Whittle, for which the premium of fifteen guineas was assigned, on the occasion of the annual exhibition, at Wootton's in Smithfield.

On application to the purchaser we find that the price for which it sold was 12l.; which we consider a very low rate, considering the credit, and accidental advantages, usually attached to the purchase of the prize animals. The buyers were Messrs. Edmund Cotteril and Sons, who are very eminent salesmen, to whom these incidental circumstances could be of no benefit. We understand they are well known for the respectability of their property, the integrity of their habits, and the liberality they exercise in all their conduct.\* They acquaint us the weight was only 53st. 5lb.; weighed, as it is generally termed in London, bacon fashion, or according to the directions of the commissioners for victualling the navy.

By the above gentlemen we are informed, that a hog was slaughtered at the same time, which under those regulations with respect to the weight, appeared to be 96st. 5lb.; and we suppose this is one of the most extraordinary animals of the hog kind, ever produced in this, or any other country.

We had intended to have made a few observations on the art of pig-fattening; but as we are favoured with a communication from a person whose judgment we respect on this subject, we shall leave the matter to abler hands.

\* We learn that Mr. Sewel, of Sutton; in Suffolk, some time since, through the medium of Messrs. Cotterils, has procured an excellent breed of swine, which if properly reformed to, may introduce into the county a valuable sort.

## ON PIG-FATTENING.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N consequence of information I have received from my salesman, of the slaughter of a hog which weighed near a hundred stone, bacon fashion, I have turned my attention to

that subject; and you will judge if my thoughts deserve a place in your Magazine.

On this occasion, I have nothing to say on the procreation, hogging or weaning. I confine myself to the store management: the former I may not neglect to speak of at some future opportunity.

It is a common prejudice, that the profit of pigs consists in their eating all the refuse, and partaking in no degree of what is valuable for the farm and family. Mr. Whittle did not fat his prize pig in that way, nor was this hog-mountain, which nearly doubled the weight of the former, expanded and rendered substantial by such offal trash. Pigs must receive, besides the waste stuff of the family, solid and costly diet; they must be treated with the greatest cleanliness; and whatever proverbial vulgarity may say, cleanliness is as natural to them as to the human species. Not only this: they must have comfortable accommodations, good warm lodging, and when the proper regard is paid to these particulars, the voraciousness of their habits will abundantly repay the breeder for the food they consume, and the attention they require.

In summer, pigs fatten quickly, and the stores are so easily kept, that this may be properly called the pig-keeping season. Grazing pigs is losing time. In the stubble and corn seasons, they should, however, be kept abroad; and a few of them will quickly repay the expence of the attendance of a boy.

Norfolk and Suffolk farming is so great a favourite, that we are too apt to transplant its absurdities as well as its excellencies: hence, pigs of those counties have been highly esteemed. They are small, thin-eared, but their only good quality is being very prolific. Those of Herefordshire and Shropshire are liable to no objections, they are purchased about Michaelmas by the farmers of the hundreds of Essex from those shires. They give for them about a guinea a head, and the following year, the animals are disposed of, out of the clover and stubbles, to the London salesmen something under four guineas a piece.

Milk and corn, are the profitable articles of pig diet; the animal so fed repays his keep by the superior weight. Barley or oatmeal, with one third of pea-meal, make pork next in rank and goodness to the milk-fed pork. Plenty of water is very necessary; indeed the cheapness of this liquid has made its nutritive properties little understood, and less willingly acknowledged.

When their appetites are so satiated as to begin to decline, a little sulphur in their meat will conduce to its restoration.

I am, Sir, yours, &c.

*Epping, Jan. 3, 1804.*

G. G.

## ON THE KOHLRABE.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** SAT myself down the other day, and had actually begun a letter to that effect, resolved, by an application in propria personâ, to endeavour, through the medium of the Editor of the *Agricultural Magazine*, to obtain a small portion of the seed of the Kohlrabe, the account of which, in page 321 of your eighth volume, I confess, much interested me. It is there introduced to the public as a plant of superior hardiness, little known in this country, and meriting a better acquaintance. Upon a re-perusal, however, of that paper, I am strongly mistaken, if the "Gentleman Farmer" has not unwittingly been led to recommend as a new and valuable addition to the winter provision of our cattle, a vegetable production long known, and in Miller's time, supposed even to be indigenous. But as Dr. Withering takes no notice of it in the last edition of his *Arrangement of British plants*, those which were considered as growing wild in the neighbourhood of Dover, must probably have arisen from seeds accidentally conveyed thither.

In pages 49 and 50 of the sixth volumes of the *Museum Rusticum*, there are two engravings of what I conceive to be the same plant, under the denominations of *Caulorapum Rotundum*, and *Caulorapum Longum*, sketched as is stated from the prints which Gerard had exhibited of them. About ten years ago I had some of the seeds given me by a gentleman recently returned from a tour on the continent, who had there collected them under the title of the Chou Rave. So striking is the similarity of these compound terms; so evidently expressive of a certain peculiarity of structure, as to leave little doubt in my mind, but that Kohlrabe, Chou Rave, Caulorapum, and Cabbage Turnip, are but different denominations of the same plant, I speak with some hesitation, because, having never seen the Kohlrabe in its growing state, I should commit myself were I at present to adopt a more decided tone. Willing to avow my error whenever it shall be proved to be such, but, at present, presuming myself to be right in my conjecture, I can assure the "Gentleman Farmer" that its culture as a cattle crop was by no means unfrequent in this country between thirty and forty years ago. Indeed, such was the opinion entertained of it, that premiums were, for several years, offered by the Society for the Encouragement of Agriculture, Arts, and Sciences, for "raising and duly cultivating the cabbage turnip, and giving an account of the soil, culture, produce, &c. &c. &c." In order that the public might be enabled, by a set of well conducted experiments, to form a just appreciation of its merits. In the *Museum Rusticum*, in the work

entitled *De Re Rustica*, and in Dossie's *Memoirs of Agriculture*, &c. the reports of several of the successful candidates are published, who speak very highly of its valuable properties. There is also a letter in Dossie's *Memoirs* from one of the most intelligent agriculturists in the county of Norfolk, the Rev. Edward Howman, of Gissing, from which your readers, I trust, will excuse my transcribing the following passage: Speaking of some plants of the cabbage turnip, (*Bressica Gongylodes caule rapum gerens*), which he had left to see what effect the frost would have upon them, he adds, "I was much chagrined to find that in one week's time, I think in January, 1768, they were all reduced to a soft pulp. The common turnips that week suffered but little, being protected by some snow. I must conclude that the turnip cabbage though a hardier plant than the turnip, will even be more liable to damage from the frost, upon account of their standing so much above the ground, which renders a much greater quantity of snow necessary to protect them than what the turnips require." Whether subsequent experiments confirmed the opinion of this discerning writer, or whether subsequent trials discovered that its first conceived merits were highly overrated, I cannot pretend to say. But certain it is, its culture decline, and has long since, been so totally given up, as perfectly to warrant that part of the Gentleman Farmer's remark, that "it is a plant but little known in this country." Whether the latter part of the period be equally just, that "the more it is cultivated the more its advantages will be felt by all graziers," as the subject is now again before the public, it should be left for their determination. In giving this little detail, let it not be supposed I design to throw any frivolous obstacles in the way of its revival. I have the cause of agriculture infinitely too much at heart ever to indulge an idle vein of critical disquisition. But having, in a favourite course of reading, acquired some information, which I conceived might not be unacceptable, I thought myself bound in justice to impart it. That such as should be disposed to attempt the culture might (by having farther sources pointed out to them) be enabled to form a proper judgment for themselves.

Perhaps the following agricultural anecdote, not relating to, but rising out of, the subject, may prove sufficiently interesting to some of your readers to render an apology for its insertion unnecessary. I stated in a former part of my letter, that premiums were offered for several years for the encouragement of the culture of the cabbage turnip. It is not to those premiums we owe the first knowledge of, and first introduction of that truly valuable plant, the turnip rooted cabbage. But we owe it to an accidental, undesigned importation. Mr. Reynolds, of Adisham, in Kent, intending to become a candidate



for the premium, and unable to procure the seed in England, with a spirit of enterprize not to be damped by trifling obstacles, determined to import it from Holland. But through a mistake of the seedsman received those of the turnip rooted cabbage in its stead, a plant well known in the higher northern latitudes. The seeds were sown, in due course of time planted out according to the mode then adopted; when having acquired a more enlarged size, the discovery of the mistake was quickly made. Mr. Reynolds not disheartened by the disappointment of his first hopes, determined to treat these strangers with respect. He watched their progress, paid every attention to their culture; and at length received the just recompense of reward for his patient unwearied assiduity. They proved to be very valuable crop, and having passed the ordeal of experiment, have since, in compliment to their first introducer and original cultivator, been known and disseminated under the denomination of Reynold's Turnip-rooted Cabbage.

I have the honour to be,

Sir, with great respect,

Near Norwich,  
Dec. 26, 1803.

Your obedient Servant,

CASTOR.

P.S. Just as I had finished the above, and was going to send it off, I accidentally met with a letter from the Rev. Davies Lamb, of Ridley, in Kent. As it contains a further confirmation of Mr. Howman's opinion, I shall not scruple selecting from it the following extract. "The common turnip cabbage being much recommended as a very hardy plant that would abide the most severe winter, I thought it worth making some trial of; and accordingly in March 1767, I sowed an ounce of its seed; when the plants had six leaves they were pricked out, and transplanted two feet square on very rich ground. At Michaelmas they were fourteen, and some eighteen, inches round; and had a very promising appearance: but the winter proving very severe, a great number of them rotted with the frost, and more in proportion than of the common green round turnip."

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## REPLY TO AGRICOLA MERIDIONALIS, ON ANIMAL LABOUR.

*To the Editor of the Agricultural Magazine.*

SIR,

Dec. 20, 1803.

**I**N the critical catalogue contained in your 45th number, it appears that Lord Somerville has connected the subject of our having become great importers of corn with that of the comparative merits of horses and oxen for the draught. In my

letter of August, *therefore*, I did not discuss the latter as an insulated question, but joined with it an examination of the various causes which, in my mind, had rendered that importation necessary; and unquestionably your correspondent, Agricola Meridionalis, did not act very candidly, when he endeavoured to shew that I ought to have confined myself to *one* subject, and *ridiculed* my manner of proceeding. Without putting himself to the trouble of making so many remarks on the desultory nature of that letter, he might have confined himself to the investigation of *any* of the subjects it embraced; and were I to contend that all the rest are more congenial to his talents than the ox and horse question, I am persuaded that a very great majority of your agricultural readers would coincide in my opinion. Perhaps some suspicion that A. M. was actuated by other motives, besides those assigned for not fully replying to my letter at page 245 of your Magazine for October, are not yet eradicated from the minds of many of them. His apology for not answering it, is contained in these words—"I am a plain reasoner, and am little accustomed to circumvention and circumlocution; but whenever Agricola Northumbriensis will condescend to confine himself to insulated questions, ordinary subjects, and cold arguments, I have no objection to continuing with him the correspondence he has commenced in your useful miscellany." These words he also used in a former letter, and certainly they may, *to a man less ingenious than your correspondent*, prove of a very accommodating nature; for adverse arguments may be deemed desultory, extraordinary, or too warm. But why "circumvention" and "circumlocution" were introduced, I must own I am rather at a loss to discover. If the latter term was intended to carry information to your readers that A. M. can write without periphrasis, it was perfectly unnecessary, for no charge had been exhibited against him; and the papers from his pen, are so many convincing proofs that he can express himself in a concise and able manner. If our controversy had related to our respective abilities as *writers*, I would not have ventured to support the contest; since being so extremely small, that in the scale against his distinguished talents, they would immediately have kicked the beam. The dispute, however, is of a different nature, and I must now not only request the attention of your readers to the remarks I shall make upon it, but declare, that if my arguments and deductions had not been *misrepresented*, I should have deemed it unnecessary to have made any observations on the paper of A. M. (on animal labour) which is inserted in your last number. Before I point out this misrepresentation, I must remind them, that in the introduction to my comparative statement, some strong *facts* (the results of accurate experiments) are adduced; which

clearly prove, that *where it is necessary to allow about as much corn to oxen as horses*, the annual expence in the support of the former, will be much greater than that incurred in maintaining the latter animals: *the oxen having each consumed more hay weekly, by near six stones, than each horse.* I must also request their attention to that part of your correspondent's letter in your 50th number, where he uses the words, "singular privation;" after which I think they will conclude, that I run no risk of being contradicted by him when I assert, that his five oxen against four good horses, would require a *very liberal* allowance of corn. Towards the conclusion of my paper which contains the comparative statement, I said, "It is easily deducible from the above estimates, that to maintain a working ox requires the produce of about four, and to support a working horse, that of about five acres of land." But it will clearly appear to those who will take the trouble of reading those estimates attentively, that when I used the words he has quoted, *I calculated on six oxen against two horses, and on the former receiving no corn.* Notwithstanding this however, A. M. says (at page 319 of of your last Magazine) "I am not disposed to follow A. N. with contradictory statements, I will take the estimate as he gives it;" and after quoting the above words, proceeds thus, "If therefore it can be shewn, that five oxen will perform the work of four horses, your correspondent will at least agree with me, that no additional expence is incurred." But when we allow each of his five oxen only as much corn as I have calculated upon for each horse, it is clear to demonstration, that while four of the latter can be properly supported on the produce of *twenty*, five of the former animals, would require very little, if any thing, less than that of *thirty* acres of land. With what justice then could he quote my authority for stating, that five oxen, *requiring a liberal allowance of corn*, would not consume a greater quantity of the produce of the ground than four horses? \* However much I may be inferior to A. M. in mathematics and logic, I flatter myself that, *after having proved that a working ox properly supported with corn, along with his other food, annually consumes the produce of a much greater quantity of land than a working horse*, your readers will not believe that I would draw so absurd a conclusion, as that he has taken the liberty of placing to my account. In the last-mentioned page he also says, "It is professed, that two oxen *driven by the ploughman, can perform nearly as much work as two good horses, and for a considerable length of time.* But under my suppo-

\* I suppose the four horses employed in two properly constructed swing ploughs.

sition, it is *only* required that five oxen should perform as much work as *four* horses." The words in italics are *mine*, and so ingeniously has he joined them to the six immediately preceding, that *some* may conclude these are mine also. I never, however, professed that two oxen could perform as much work as two good horses.—What I stated was (in effect) this, that even if they could perform as much work, it would be cheaper done by the horses; and I hope enough has already been stated (relative to the quantity of food consumed by each species of animal, &c.) to make this exceedingly obvious. In his letter in your Magazine for September last, your correspondent accuses me of having advanced assertions unsupported by *facts*. I have, however, stated, that I have had more work performed by one man and two horses, than by a man, a boy, and six oxen. Where are *his* facts and observations?—Instead of advancing them, he has brought forward his "supposition," and a little monosyllable, "If." "If, therefore (says he) it can be shewn, that five oxen will perform the work of four horses, your correspondent will, &c." But does this gentleman really believe that five oxen can, *for a year or two*, perform nearly as much work as four horses;\* even with a much greater allowance of corn than the latter animals receive? If he does, he would be contradicted by nine-tenths of the experienced agriculturists in the kingdom. He says, that I formed my calculations on erroneous data—"that I suppose six or eight oxen are required, where only two or three are necessary," and that if I could shew that the power of a single horse is equal to that of three or four oxen, he would give up the controversy, and admit the validity of my conclusions. His arguments are founded on "supposition;" mine are very different, and rest on the solid basis of experience! In calculating on six oxen against two horses, when the former animals are supported *without corn*, but in such a manner as to increase in value two pounds per annum each, I am warranted by the practice of a great majority of the labourers of oxen. But, Sir, I have compared the expence of farm-labour, when performed by two horses to a plough, with that of different numbers of oxen, varying the manner of supporting them according to the severity of the labour. This was done in compliance with the modes of labouring among the warm advocates for oxen; and as the calculations are founded on such a number of these animals to a team as your correspondent approves, and such, therefore, as he will not include in the number of "particular errors," I am rather at a loss to account for his silence on

\* His hypothesis having been proved erroneous, the arguments he has built upon it, must be "inconclusive" and "nugatory."

that part of my estimates; *does it proceed from the balance being so greatly in favour of horses?* He descants on the great power of the ox, and increases it by particular attention to breeding for the team; till he produces him such "gigantic" strength, as to induce a *supposition* that three oxen may perform the work of four horses. Here again we have his "supposition," instead of *facts*. Admitting, however, that our oxen are not generally so well adapted to tillage as they would be, were *that*, instead of grazing, the chief excitement to our breeders; will A. M. deny that great improvement may be introduced into the general breed of our draught horses? Will he contend that those of Suffolk and Lanerkshire, cannot perform much more work in the space of a year, *and on less food*, than the more heavy breeds of many other districts? It is well understood, that the horses in the two counties I have mentioned are the most profitable in the kingdom; and this *fact* seems to lessen the force of his "supposition," relative to the labouring powers of the ox being increased by the hugeness of his size.—From all the remarks I have made on labouring animals, I am inclined to think, that either oxen or horses of about the middling size, are best calculated to bear fatigue and perform the most work.\*

Perhaps when your correspondent contrasts the great size of his Majesty's oxen with those pygmies called *kyloes*, which are driven in vast numbers from Scotland to the southern counties of England (and which I believe are excellent feeders, and produce the most valuable beef) he may conclude, *because I live near the former county*, that the oxen I have calculated upon are *small*, and that this is the reason of employing six against two horses. But in Durham, Northumberland, the northern parts of Yorkshire, and southern parts of Scotland, the cattle are generally as large as in any other district in the kingdom; and the preference given to six oxen to a team, is founded on experienced utility. Thus employed, *without corn*, they brought an *increased price*, while four to a team, with a full allowance of corn, were depreciated in value. *Here, however, as in most other parts of the kingdom, they are now nearly all set aside for the grazier; two horse teams having been found much more profitable than those with oxen, under any system of management*; and I cannot think the mode of yoking by the horns, calculated to produce any change in favour of the old exploded and barbarous custom of labouring, heating, and straining an animal, which seems intended only for human food.

\* For a considerable number of years in succession]



At page 321 of your last number, A. M. says, "but for his (my) argument, drawn from the difference of British and of French ground, I shall be ready to admit its propriety, when he can shew that the specific gravity of bodies is materially different in France and England." Now, Sir, when I stated that the French mode of yoking would not answer on British ground, I certainly had in view, if not the difference in specific gravity of British and French ground, at least what seems almost universally acknowledged, namely, *that the former is stronger than the latter*. But the specific gravity and tenacity are perhaps of less consequence in settling the matter in dispute, than the depth to which the plough penetrates in the respective countries. *The French do not plough so deeply and so well as the British agriculturists*. If they did, would any man of experience contend, that *without an unusually great number of cattle*, they could cultivate their lands with *oxen yoked by the horns*? On this subject also, your correspondent and I differ widely; I am persuaded, however, that I could soon convince him, *by experiment*, that either with the collar or the common yoke, an ox will draw much more than when yoked by the horns, and that the former is the most advantageous mode. If I were near A. M. I would perhaps, though hostile to betting, risk a considerable sum on the issue of the trial.

I agree that it is not unlawful or improper to adopt the improvements of our enemies, and am as ready to praise when they deserve it, as he is; I again, however, reprobate the French manner of yoking, and as a warm friend to agricultural publications, must now beg leave to express my sorrow, that the paper he refers to should, *in such terms*, have been introduced into your Magazine. I concur in his opinion, that the apology for inserting Mr. Middleton's letter on tithes was not necessary. That apology, however, did not appear to me of so mischievous a nature, as the approbation bestowed on the French mode of yoking their oxen; and I heartily wish that it could be blotted out of your pages.

If A. M. writes "to impart information to those who wish to receive it," why does he write in a foreign language? It is evident that agricultural improvements, *to be extensively useful* must be executed by practical farmers; and is he so little acquainted with them as to suppose, that one in thirty can read his Greek and Latin? For my own part, I was not a little perplexed with his quotations from Horace's Art of Poetry. I never knew much of the Latin language, and having for near thirty years past been sedulously engaged as an extensive practical farmer, I have had but little leisure for the perusal of books, even in my mother tongue: those in the Latin have almost always been thrown aside. I therefore

could not fully depend on my translation of the lines he has given us from Horace; and for my own instruction, as well as to see whether your correspondent had quoted correctly, I wished to find what that author himself and Dr. Francis had stated, but he had been laid by as "greasy" as your friend's "Duncan;" and whether the great Roman poet was offended at being used in this manner, or whether he thought it a derogation from his dignity to be placed in a farmer's cupboard at all, I cannot say; he had however hidden himself in an obscure corner, and searching for him cost me no small trouble.\* I must therefore request, that *when I am concerned*, A. M. will be so good as to confine himself, in a greater degree, to the English language. This mode will not only save me considerable trouble, but will prove of more extensive utility. Besides, as my brother farmers have doubtless observed the *shifts* to which my simple statement of facts have driven him, they may, perhaps, conclude, *if he should again indulge himself in writing in the Latin language*, that he is afraid to convey, his ideas in plain English, and that his preferring the former arises, not from his being *pedantic*, but principally from its furnishing a kind of veil to a defeat. Perhaps this may (with your friend A. M.) be deemed an additional reason for preferring his mother tongue,† and confining himself to the ox and horse question, instead of sending me to the woods, or soaring to the gods or goddesses.

I have not advanced any thing which can be construed into a wish to deprive practical farmers of that nutritious aliment butcher's meat; on the contrary, I sincerely lament that there are so many occupiers of land unable to indulge themselves and their families, in a liberal use of that species of food. Those, however, who still pertinaciously adhere to the unprofitable practice of labouring with oxen instead of horses, and thus render themselves unable to purchase the delicious flesh of the former animal, may blame themselves for the deprivation. Neither can your correspondent discover any thing in my letter to warrant his stating that I do not think reason and common sense, the same with all ranks and classes of mankind. Unquestionably, however, I would have set "reason and common sense" at defiance, if I had maintained that the *great body* of consumers of butcher's meat, namely, the inhabitants of towns, merchants, manufacturers, mechanics, and in short,

\* The quotation is (but I dare venture to assert that it does not proceed from want of knowledge) *incorrect*.

† Notwithstanding his partiality to the custom pursued by the French, *of pressing hard upon the skull and brains*, I suppose him to be Briton.—Pray does he think the former part of the animal *much* thicker in France than in Great Britain?

all people not acquainted with practical husbandry and the management of rural affairs, are as able to judge of the comparative merits of horses and oxen for the draught, as the great body of *practical farmers*.

I rejoice that A. M.'s sentiments are in unison with those I have long entertained on the important subject of tithes. If his abilities as a writer be sufficiently aided by *facts* and *experience*, the interests of religion, the clergy, and agriculture, which are undoubtedly involved in the tithe question, will be splendidly and ably upheld in any investigation in which he may appear as an advocate for a fair and reasonable commutation; and as a speedy attack may be expected from the Rev. Mr. Howlet, or some of his disciples, I have no doubt but he has the powerful auxiliaries I have mentioned, in readiness. If, however, none of the enemies of a commutation venture to assail him within a short space of time, I should be highly gratified if he would favour your readers with some of the leading arguments of the Reverend and "Doughty Champion of Tithes," and his own remarks on them.

With respect to the horse and ox question, I can expect to prevail against A. M. in no other way but by the aid and power of *facts*, and having, I trust, stated these in abundance, I have sheathed my "Ensis," leaving your readers to range them opposite to his arguments "and suppositions," and being satisfied that they will, in every impartial mind, clearly prove the superiority of the horse, I must decline drawing it again, in the same cause, unless I am impelled by misconception or misrepresentation.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

P. S. Experienced men will readily discern, that my estimate at page 243 of your magazine for October, does not *fully* shew the annual expence of an ox team; *if four oxen are to be so severely goaded, as to perform as much work within six months as two good horses, and supported in such a manner as to prevent their being depreciated in value.* If they are driven at such a pace, such men will almost unanimously concur in the opinion, that over and above a *full* allowance of good hay, each ox would require at least as much corn as a horse; and that even with such an allowance of food, they could not perform nearly so much work as the horses, *within the succeeding six months*; besides being lessened in value. Now as the *full* allowance of hay for the ox, *as ascertained by the accurate experiments I have referred to*, exceeds the quantity found to be necessary for keeping a labouring horse in a proper and vigorous state; (and calculated upon at page 239 of your number for October) by almost two tons in seven

months, it is clear that when the latter animal can be properly supported on the produce of five, the former (when four oxen are severely laboured against two horses) will require that of about six acres annually.

A. N.

## ON DUNG, COMPOST, AND LIME.

*To the Editor of the Agricultural Magazine.*

SIR,

Dec. 24, 1803.

**F**INDING by your last number that your useful pages are open to the enquiries of *Novices*, I am emboldened to request information through the channel of your Magazine, and as I am now concerned as a practical agriculturist, and extremely desirous of such instruction as may enable me to pursue the most advantageous modes of management; I flatter myself that some of your able and experienced correspondents will reach their helping hand to me. I, as well as my brother, "a Novice," have heard much in favour of coal, coaly matter, or what philosophers call carbon, as a manure; and I have attentively read a letter in your last number, signed "Hibernicus" who states a good deal relative to this substance. Still, however, I do not fully understand what kind of coal it is, or where it is to be purchased or raised; and will therefore be much obliged to him if he will condescend to be more minute in his description of it, and of its nature and effects. This correspondent after stating (at page 351) a good deal that I am sorry to say I cannot comprehend, but which nevertheless is, I presume, well founded, says, "and this is the reason of the benefits resulting from the application of dung before it has putrified." Now, Sir, this really perplexes me exceedingly, for my father, who was an old practical farmer, gave me strict orders always to have my dung well rotted, stating that one load of such was superior to two loads in a long state: your correspondent seems of a different opinion, and my brother Novice states, that he has observed the crops of "Philosophers" more productive than those of their neighbours, owing principally to their superiority in managing their manures. This gives additional weight to the opinion of your philosophical correspondent Hibernicus, but in opposition to it I must state, that the practice of some of the farmers in my neighbourhood is to apply their dung after it is well putrified, and they maintain that they obtain more productive crops of turnips and corn after it, than when the dung is applied fresh or long. Some, however, do contend for the superiority of the latter, but then they are deemed rather slovenly farmers. It is certainly of vast consequence to know the best way of ap-

plying dung, and as there seems so great a diversity of opinion on the subject, I particularly request that some of your correspondents will do me the favour fully to discuss it in your Magazine. And also the most profitable manner of making and applying composts, whether lime should be applied in autumn or summer, quick or old, by itself or with dung, whether a large dose should be given at once, to last for twelve or fifteen years, or whether quantities of three or four loads per acre should be applied at intervals of three to five years, what is the difference between marle, chalk, and lime,\* &c. &c. To the questions I have put to the practical men, I have received answers, which are various and contradictory; I am therefore totally at a loss how to proceed, and I hope you and your correspondents will excuse me for making these enquiries.

And am, &c.

A NOVICE.

P. S. I am under as great difficulties, with respect to obtaining information relative to lime in my neighbourhood, as I am on the subject of the most proper state of dung; for while some farmers maintain that it is a powerful, and very profitable manure, others contend that it is of no utility whatever. In short, Sir, no inexperienced agriculturist was ever more perplexed with discordant opinions than I am. In future, however, I will venture to apply to you and your friends for information, under an idea that my conduct will not be thought impertinent.

A. N.

\* Both in nature and effect.

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ON THE ABSURDITY OF BLENDING AGRICULTURAL ENQUIRIES WITH SUBJECTS TO THEM WHOLLY IRREVELANT.

*To the Editor of the Agricultural Magazine.*

SIR,

**M**R. Capel Lofft, of Troston, a gentleman well known in the literary world, sent the following curious letter to the Editor of certain Annals of Agriculture, introductory to a learned astronomical paper.

"As comets may feed the sun, which feeds us, and recruits our atmosphere, they seem to have a fair relation to the Annals of Agriculture: where, too, observations concerning them will branch further, probably, and more effectually, than by any other mode. I therefore send this, and am, with much esteem,

"Dear Sir, your's, &c."

We are commencing a new year, and you also a new volume; and I hope we shall have in both of them, to submit

to the reign of common sense, and not be obliged to rear our heads among the poles. Great as may be the ingenuity of that gentleman, his utmost stretch of talent will not be sufficient to convince us, that these blazing stars bear that "fair relation to the Annals of Agriculture" he pretends. His delicate form will as easily be supported by the milky way, as any nutritive principle will be extracted for the purposes of agriculture, from the planetary regions with which he is conversant. While his thoughts are directed to the sky, I hope you will condescend to think that your attention should be confined to the earth. The plough of heaven\* has continued its course for six, or perhaps sixty thousand, years, without the smallest interference with the implement of the same name, on which human subsistence, in the present state of increased population, necessarily depends.

Practical husbandry, illustrated by sound sense and progressive experience, is what we require. We want something more. We desire to be informed of all the changes in the old instruments of husbandry, and of the adoption of new ones; with correct explications of their several parts and uses.

We are not yet satisfied. Farming, like the games of the school boy, will continue, and has continued from century to century, with very little variation; without importing from foreign climes, the inventions which happy circumstances have enabled the mind of man, no less fertile than the surface on which he moves, to produce. Our wants, Mr. Editor, may be unreasonable; but we wish on the subject of Agriculture, and on Agriculture only, to have your work converted into a species of focus, wherein every ray of light shall be collected, after having undergone refraction: that these rays being thus united, their force and effect may be increased, and that they may be enabled to burn and to dissipate all the errors and absurdities, with which a mob of literati and dilettanti have entangled the science.

I have given this advice, because I conclude, not only from some occasional notices to your correspondents; but from the general spirit of your work, that you will be disposed to adopt it; and wishing you many happy returns of this jovial season,

I am, Sir, &c.

WALTER BARDOLPH.

Christmas-day, 1803.

\* Urfa Major so called by the Egyptians.

## OBSERVATIONS ON FARRIERY, IN ANSWER TO A LETTER FROM DONCASTER.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** AM not at all surprized that Veterinarius Alter, whose letter was introduced into the last number, is not disposed to receive with perfect satisfaction the compliments applied to the Veterinary institution in the neighbourhood of the capital. It is not, we find, his Alma Mater; he was not educated under its auspices, and a sort of competition exists between the graduates of that college, and the ex-students; similar to that which prevails with the college of physicians, and the ex-quacks, who have not gone through the regular formalities of the Esculapian school.

I rejoice, Sir, in all contentions of this kind; because whether connected with science, with trade, or with agriculture, they do what is most essential to public improvement—they expose the secrets of factions and parties—the mysteries of grave and mercenary monopolists, to general observation.

V. A. has fallen into the ordinary mistake, of supposing the business of farming is essentially influenced by illustrious patronage. It seems that some expression of your correspondent Veterinarius, was derogatory to a certain provincial establishment. "The Society of Odiham, which he states to be obscure, was composed of some of the first people in the country, and St. Bel was introduced by two powerful noblemen."

It may be very important to V. A. to obtain that patronage for the success of his occupations in the opulent vicinity of Doncaster, but the peaceful and retired pursuits of the farmer, have very little concern with ribbons and coronets; and the true reason why farming has succeeded in this country more than in any other state of the world, is, because we have a body of respectable yeomanry, who leave the hereditary nobility of the land to settle difficult questions on turnpike acts, game laws, and manorial rights, while they devote their own talents to invite, and to collect the gifts of exuberant nature.

It appears that M. St. Bel, according to the opinion of your correspondent, took a most injudicious step, in his adoption of the lectures, opinion, and practice of the French college.

When I address myself to V. A. I am speaking to one who is a professor of the Veterinary art; and therefore I am not to suppose that he is unacquainted with the foundation on which it has been erected. He is not uninformed, that not only the art of farriery, but that surgery is almost wholly derived from the principles and practice established in France. He is not ignorant, that whether the operations respect horses,

or the human species, they are there conducted with a portion of promptitude, address, and facility by the common practitioners, to which our robed and charioted professors in this country are incompetent. If farriery were not to be improved from the lectures, opinions, and practice of the French college, from whence should we derive information? No lectures are here given, no opinions are here formed, and no practice is here adopted, that would not disgrace the disciples of Argentinus.

V. A. again complains of the new medical nomenclature. From respect to this gentleman, I must not forget that I am speaking to a learned professor; I am therefore to conclude, that he is perfectly conversant in the comparative merit of the ancient and modern pharmacopœia, whether under the hands of Bauderon, Quercetan, Zweler, Charas, Bates, Salmon, Lemery, or Quincey.

“ Ambubaiarum collegia, *pharmacopole*,  
“ Mendici, *mimæ*, *balatrones*.”

Need I remind him of the absurdities into which these compilers have fallen, to convince him of the necessity of a treatise on a new system, describing the preparations in their several kinds, their uses and mode of application. In the instance he adduces, does the appellative, “Glauber’s Salt,” taken from an arbitrary name, imply the vitriolic acid, and mineral alkali, of which it is composed?

I am very happy at least, that we agree on the subject of Mr. Taplin. His publications have sold; and except a little indulgence of the most egregious vanity, the profits of the sale was the object of the publication: his works are now sent “to sleep with Quarle’s”—the opiate was fatal, and precluded the possibility of resuscitation.

I am, Sir, yours, &c.

Warwick-lane, Jan. 4, 1804.

LUCUS MEDICUS.

## ON THE AGRICULTURE OF KENT.

To the Editor of the *Agricultural Magazine*,

SIR,

I Observe into your last publication you have introduced the result of my observations on the agriculture of Shropshire, and I see in your address to correspondents, you have very properly invited the attention of those gentlemen who possess an accurate local knowledge of that county. I am conscious, painfully so, that it is impossible for one person to give a correct general view of provincial agriculture, and I wish the exertion of the task I have undertaken to be examined with a  
*Ag. Mag. Vol. 10.*

D



scrutinizing eye, that my errors may not mislead those who are willing to receive useful information.

While I was directing my thoughts to the commencement of that paper as it appears in your Magazine, my vagrant attention caught the name of my old friend John Hodges, of Aberford, who attributes to me "a wild and adventurous exercise of rampant curiosity." He will recollect the impertinent and inquisitive spirit with which I collected at his hospitable board information on the agriculture of the West Riding of Yorkshire, and on the management of the extensive farms in the estates of Sir John Goodricke. I expect, therefore, that by the next opportunity he will not attribute to me that species of pernicious extravagance in my pursuits and enquiries.

The subject of this communication is the agriculture of the county of Kent, in which I shall have an opportunity of noticing an implement that is new to your correspondent *Agricola Norfolciensis*, and which certainly deserves to be added to the numerous mechanical improvements of the county in which he resides. I shall consider myself sufficiently rewarded for the trouble I have taken in collecting these materials if I impart a single idea that shall be adopted into the practice of such an intelligent correspondent. When I come to speak of the agriculture of the district where he resides, and the adjacent county, it will seem as if I were giving a dispensation on the highest state of modern attainment in the art, instead of treating on the condition in which it appears within a contracted limit of the kingdom.

#### KENT.

The county of Kent is bounded on the north and east by the Thames and the sea, on the south by Sussex, and on the west by Surry. It is 58 miles in length, and 48 in breadth, and it contains 39,340 houses, 235,440 inhabitants, 408 parishes, and 31 market towns. The rivers besides the Thames, are, the Medway, the Rowther, the Stour, the Darien, the Ton, and the Wantsheim, and several lesser streams.

Perhaps the extent of this county may be computed at 1,240,000 acres, and I do not much understate the rents at 20s. per acre, including the whole county.

The best land is in the vicinity of Feversham. The high ground is a stiff flinty loam. The Howlets are a mellow loam. The parish of Ash contains about 7,000 acres, and the rents average at about 25s. Romney Marsh, a district which has all the peculiarities of Dutch agriculture, lets from 40s. to 50s. The parish of Goudhurst rents from 15s. to 25s. but the meadows and hop-grounds, in course, considerably higher. The price in the vicinity of Tunbridge is nearly the same.

If a line be drawn from London to Canterbury, and from thence to Dover, the tract of Kent north of that limit includ-

ing Sandwich, Deal, and the Isle of Thanet, contains ground the best treated of any in the kingdom, excepting the districts of Suffolk and Norfolk. But it will appear singular that the Wealds of Kent, capable in many parts of great improvement, and of the high condition of cultivation, should be neglected, and a large portion of it abandoned.

The very excellent letter which appeared in your number for September last, from the pen of Dr. Wilkinson, on the Rural Economy of the Isle of Thanet, makes it unnecessary that I should insert a single observation on the farming of that division, and I may avail myself of it thus far with respect to the rest of Kent, that the same system of farming is adopted within the limits I have just assigned in the northern parts, as far as the situation and soil will admit of it.

The extent to which the culture of hops is conducted, and the immense income it produces in this county, are too well known to require particular observation; it however is worth noticing, that the corn crops produced on the scite of the hop garden afford some of the most extravagant examples of the exuberance of nature.

The artificial grasses are well understood, and extensively distributed in this county, and are generally preceded by the excellent rotation of Wheat, Beans, and Barley.

In the neighbourhood of Feversham, a crop of wheat is three and a half to four quarters, and frequently the crops are much more considerable, but perhaps their barley crops are inferior to what might be expected, from the practice of delaying too long the time of depositing the seed.

Beans are the species of pulse principally attended to; they value the tall bean, because they rightly conceive it the most successfully to smother the weeds. The custom used to be, to drill them at the distance of eighteen inches, in order to plough between that interval during the growth, but the facility of using the horse-hoe, has occasioned these distances to be lessened in every part of the kingdom where it is employed, and it is well known and much used in the county of which I am now speaking.

The prodigious cultivation of potatoes in that part of the county which is adjacent to London, and the large fortunes which have been raised from attention to that part of husbandry, are well known.

In this county they have tried the method of feeding horses on carrots, and on lucerne, and they have found them, by this diet, to be kept in very high working condition.

In the parishes of Ashford, Cranbrooke, Hythe, Tenterden, and Appledore, oxen are worked from three to five years old, they are then fattened with hay, oil cake, and some corn, and sent to market; and this expedient for the culture of their

ground, the farmers consider highly profitable. Also in the country round Tunbridge oxen are generally employed in their teams.

In the neighbourhood of Goudhurst approaching Sussex, the practice of summer fallowing is still continued.

Among the more valuable implements of husbandry is the Horse Shim, an instrument two feet wide, employed for cleaning weeds after harvest, and for cutting the bean stubbles. For further particulars regarding this instrument, I may refer to your own Magazine for November last, in the letter from A. C. page 326. A broad shared plough without a mould-board, is also used for clearing weeds before ploughing. I cannot speak in terms of commendation too high of this neat, useful, and I might say necessary practice for all the purposes of good husbandry. It is to the credit of the Isle of Thanet, that it owes its origin to the intelligent cultivators of that district.

We see in almost all the northern part of this county, some of the best maxims of husbandry pursued.

1st. We never see two crops of white corn succeed each other.

2. The manure is generally applied to the ameliorating crop, as it is called; and this crop is kept perfectly clean, either by the hand or horse hoe, so that the country is rendered a garden.

3. I have just remarked the attention to clearing the weeds before ploughing.

4. Early sowing is generally adopted

5. Paring and burning is a practice widely extended. They then sow turnips, which are fed off with sheep.

6. The manner of making hay in this county deserves commendation. Instead of letting it lie a long time in the swarth, or in the wind-row, they put it early into grass-cocks, which are gradually increased according to the circumstances of the weather; and the produce is thus soon removed from all danger.

I cannot avoid noticing, with some disapprobation, the perseverance of the Kentish farmers, in performing their team-labour with their cattle at length. The frequent stoppages which occur in the business of the field, occasion the animals, when so arranged, to counteract each other, and to exhaust their strength by ineffectual exertion.

The price of labour is, all round the year, excepting in the harvest time, 1s. 6d. to 1s. 9d. a day. Reaping wheat, 8s. to as high as 20s.; according to the crop. Mowing spring corn, 2s. to 2s. 6d. Reaping beans, 6s. to 7s. Harvest work, if done by the day, 3s. to 3s. 6d. and board.

I observe some interesting letters between Agricola North-

umbriensis and Meridionalis, on the comparative utility of oxen and horses. The controversy appears to me to be in very good hands, and as my attention has lately been directed to that subject, I shall see with particular pleasure its revival in your miscellany.

There is another enquiry which I should be glad to see treated by the pen of the former; I mean the agriculture of the county of Northumberland, where my notes are very deficient. My detention at the charming Lakes of the neighbouring counties of Westmoreland and Cumberland, afford me a much more abundant means of communicating information in that department of provincial agriculture.

I am, Sir, yours, &c.

Dec. 12, 1803.

CHOROGRAPHUS.

ON THE ELEMENTS OF WOOL, AND ON THE STRUCTURE OF  
THE FILAMENTS OF WHICH IT IS COMPOSED.

*To the Editor of the Agricultural Magazine.*

SIR,

**B**EING a native of the West, my attention has been drawn to the great article of trade, on which the staple manufacture of this country so materially depends. From the day that the royal Elizabeth, in the sage maxims of her policy, received into this country the ingenious manufacturers of the Netherlands, she imported the respect they had acquired with their connections in Spain, and the confidence they had been accustomed to receive from the parent state to which they were subservient. It was thus that the commerce of this country was established on a foundation, from which a beautiful fabric has arisen, which has commanded the reverence, and attracted the admiration of mankind.

We are now told, Sir, that the Consul of France is not less politic than our favourite heroine, and that this channel of wealth is to be perverted, by the domineering influence of the Court of St. Cloud. If this be the fact, nothing can be more necessary, than the attention which has been recently paid by his Majesty, and by many other intelligent improvers, to render ourselves independent of the supplies of wool from Spain. You have, Sir, exerted your means, by circulating useful knowledge on the subject; I will endeavour, with your assistance, to conduce to the same design, by the cursory observations it is in my power to suggest.

In the computation you have given, under the title *Manufactures and useful Arts*, of your last number, we see that in the short interval of four years, the export of British manu-

factures have increased from £33,148,682, to £48,500,683.\* This view of commercial advantage is too flattering to be quietly relinquished; and an Englishman would feel the pang of mortification; at seeing the most ancient and valuable direction of the ingenuity of his country, disappointed in its object by the wily artifices of the school of Mazarin.

Much has been said in your work, on the time and circumstances of shearing, on the climate best adapted to the growth of wool, on the quality most suited to manufacturers, and on the expences attending the importation. But the most valuable part of the remarks are applied to the method of crossing the breed, by which the Spanish exotic may become a native of these islands: we have, however, yet to learn, if, when he is brought to the nearest approach to perfection we are capable of producing, he will not degenerate, like the Andalusian horse, and the English bull-dog, when they leave their native climate.

The first step in all these cases is, precisely to ascertain the materials with which we have to work; and it will appear singular to persons not conversant in the analysis of organized substances, that wool, hair, hoofs, horns, and feathers, which appear so excessively different, under the various operations in the laboratory of nature, are composed of nearly the same elements. These all afford an aqueous alkaline liquor, a concrete volatile alkali, and a fœtid oil, which by repeated rectification becomes more and more limpid. Neumann has given the following result of the chemical distillation of hog's bristles and sheep's wool.

Hog's bristles	. . .	16 ounces
Arose in all	. . .	11½
Remaining coal	. . .	4½
		<hr/> 16
Of urinous spirit	. . .	7½
Salt	. . .	2
Oil	. . .	2
Caput mortuum	. . .	3 oz. 6 dr.

And gave 24 grains of fixed salt.

Sheep's wool gave as much volatile salt as the hog's bristles; but a little less spirit, and a little more oil.

Spirit	. . .	7 ounces
Oil	. . .	2½

Caput mortuum 3 ounces, 6 drams;—and obtained from the calx, by water, 30 grains fixed saline matter.

\* The sources from which these calculations are taken, do not admit of precision; but the remark here applied is merely comparative; and so far they may be considered sufficiently correct. E..

Mr. Monge has explained the operation of felting (*feùtrage*) and the effects of fulling, by the external conformation of the wool and hair of animals. He has made some curious remarks on this subject.\*

Nothing particular can be discovered by means of the microscope in the filaments of wool, or in the hairs of animals. The surfaces of these bodies are not smooth, they must be formed either of small laminæ, placed over each other in a slanting direction, from the root towards the point, like the scales of fish, which cover each other from the head of the animal to the tail; or more probably, perhaps, of zones placed one upon another, as we see in the horns of animals.

If a hair be laid hold of by the root in one hand, and drawn between the fingers of the other, from the root towards the point, scarcely any friction or resistance is perceived, and no noise is heard; but if, taking it by the point, it is passed in the same manner between the fingers of the other hand, from the point towards the root, a resistance is felt which did not take place in the former instance; and a tremulous motion is perceptible to the touch, and a noise sensible to the ear.

We perceive then, that the texture of the surface of hair is not the same from the root towards the point, as from the point towards the root; and that a hair, when pressed, must meet with greater resistance in sliding or moving towards the point than towards the root; but as it is this texture itself which forms the principal subject of Mr. Monge's memoir, it is necessary to confirm by farther observations.

If after having laid hold of a hair between the thumb and forefinger, we rub them against each other in the longitudinal direction of the hair, it acquires a progressive motion in that direction towards the root. This effect depends neither upon the nature of the skin of the finger, nor on its texture; for if the hair be turned, so that the point shall be placed where the root was before, its motion is turned; so that if the point shall be placed where the root was before, its motion will now be in an opposite direction; that is, it will still be towards the root.

These observations are related of human hair, taken as an example; but they are equally applicable to the filaments of wool, to horse hair, and to that of animals in general. The surface of all these bodies then, is formed of rigid laminæ, laid upon each other like tiles, from the root to the point; which allow a progressive motion towards the root, but oppose one towards the point.

While your correspondent, Mercater Tarraconensis, is explaining the extensive establishments in Spain, and the inge-

\* Observations sur la Machanisme du Feùtrage. Ann. de Chym. tom. 6.

nious Secretary of the Bath Society is disclosing the means resorted to in this country, through the medium of your work, to inform the public on this staple commodity, I trust the observations I have collected, will not be wholly immaterial; but will be found to conduce to that clear comprehension of the subject, without which we shall resemble a giant fighting in the dark; dealing around powerful efforts, to terminate only in vacuity and disappointment.

I am, Sir, yours, &c.

Huntingdon, Dec. 30, 1803.

P. Y.

#### VETERINARY ART. LETTER III.

### ON THE DISEASES IN THE BONES OF THE HORSE.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N my last letter, I endeavoured to give a general view of the Bones of the Horse, and particularly directed the attention of your readers to the means of ascertaining his age, which, however simple and easy, are not generally understood even by those whose first and last business of the day is to attend to the animals.

In pursuance of my plan of examining the solids, I shall treat in this paper of the diseases of the bones, and it is more necessary to comment on this subject, because it has been usual with farriers, in the disorders of the bones, especially in fractures, to consign the poor animal to his fate, when, by a little knowledge of the system, they might, without any danger, penetrate to the seat of the evil, and effect an easy cure; for it will be readily discerned by the comparison we have made, that nature employs the same means for the restoration of the bones, as for the softer parts. The attention that is paid to human beings has shewn that the most dreadful fractures and dislocations are often succeeded by the perfect restoration of strength and convalescence, and on some occasions the parts which has been subjected to violence is afterwards less liable to accident than any other portion of the system.

The bones are a white hard brittle insensible part, framed for the defence of the softer parts, and for the support of the whole fabric. They have their vassels and circulating fluid, and are of the same general texture with the other parts, the solidity and the stronger cohesion being the only evident distinguishing characters of their composition.\*

There is at least one artery in every bone for the supply of

\* Monro. Med. Eff. Ed. Vol. Art. 24.

the marrow or medallary matter : the blood which remains in this process is returned by veins.

A bone may be divided into several parts : the body which is the middle, the heads which are the extremities, and the necks immediately within the extremes, the bones are all covered with a thin web or membrane, and are most of them hollow, and supplied with marrow.

The improvements in optics have enabled the curious osteologist to discover that the bones are completely a vascular system, and that the marrow in the cavity is furnished with its own web or membrane, wherein are included little bags, and in these are glandulous bladders for separating the unctuous marrow from the blood ; the use of the marrow is to prevent the bone becoming too dry and brittle : this oily matter also hinders the extremes or heads of the bones from being worn or heated with action, and it contributes to moisten the ligaments or bandages by which the bones are fastened to each other.

I think this explanation necessary to introduce the examination of the diseases of the bones, for by the description I have given, your readers will immediately discover that, having the same vessels, and differing only in the compactness of their form, they are subject to similar diseases with the softer parts, (although less irritable,) and to some, from their singular construction, which are peculiar to themselves.

A fracture in the skull of a horse is not always fatal. In such a case the scalp should be removed, when the injured bones will make their appearance. Those pieces which are loose must be extracted, and such as are indented may be raised. The scalp must then be returned, but the wound must not be in the present state exactly closed. The part should be kept from the external air, and no irritable dressings should be applied.

The os jugale is liable to fracture from kicks and other accidents, and the horse will be frequently started if a remedy be not employed, as the jaw will be sometimes rendered inactive. The skin in this disorder should be removed, and the loose portions drawn out, and all irritable dressings avoided as in the preceding case. Under this calamity the diet of the horse should be in such a form and of such ingredients as will occasion the least action of the jaw, and as will be least heating to the system.

The fracture in the nose is frequently followed by the fatal disorder of the glanders, (which is the inflammation of the adjacent membrane) no time should therefore be lost, but the part should be skilfully opened : what is incapable of com-



bining should be removed, and every other part should be restored as nearly as possible to its natural situation.

The case of the fractured rib requires little assistance either in man or beast. But if the injured part be so situated as to enter the chest and wound the lungs, the air being admitted occasions a windy swelling, or bloating, like that in the parts of various animals when blown up after they are killed. The air being thus admitted frequently cannot escape at the aperture of ingress, and by the dilatation of the lungs it sometimes is forced into the whole habit, which constitutes the disorder professionally called *emphysema*. The object under this fracture should be to prevent, by bandages, all access of air to the part, but they must be so contrived as to assist the restoration of the rib to its proper place externally, and the action of the lungs themselves will perform the same office internally.

In fractures of the extremities the employment of a sling to assist in supporting the animal is usually necessary. The utmost care should be taken to unite the broken bone, with the greatest accuracy, immediately after the accident; but if any splinters should have separated themselves, which cannot be restored, an incision must be made to draw them forth before that operation. When the fractured bone is thus assigned its situation, *ferulæ* or bandages are to be placed so as to preserve the adhesion without confining the part more than that design shall render necessary, after which nature will take upon herself the office of healing and conglutinating, by the formation of a callus.

The fracture of the thigh I believe has hitherto been found incurable, those of the arms, pasterns, and coronets, and of the tibia or leg, are not without a remedy even in the infant state of the art. By humane attention in such cases the animals may afterwards become not only useful, but very valuable, and in the instance of mares they may be advantageously employed in breeding. Stock from these animals (often suffering from accidents in the prime and vigour of life,) would be much preferable to the offspring produced when the constitution of the parent is hastening to decay, and neither possesses the *plethora* competent to the supply of its progeny in the embryo, or in the progressive stages of its infant existence.

#### OF THE MORTIFICATION OF THE BONE.

All the bones in the system, excepting the teeth, are cloathed with a web or membrane which is called by anatomists the *periosteum*; of this their observation has discovered the existence; but their learning has not ascertained the origin. This membrane is absolutely necessary to their existence: its internal part enters the cavities of the bones, and furnishes them with their vessels, sustaining the marrow by receiving the

arteries that secrete it. Its acute sensibility to inflammation is the cause of frequent destruction, and the decay of the bone it embraces is the inevitable consequence. This disorder is called caries, or the mortification of the bone.

#### REMOVAL OF THE DEAD BONE.

This process is called exfoliation ; it is the effort of nature to remove a defective part of the system, which is no longer useful, and has become injurious. The dead bone irritates the vessels of the living bone, with which it is in contact ; the decayed portion therefore loses its union or attachment, and comes away. This is one of those cases in which the actual cautery should be employed, small heated points should be applied round the exterior edge of the decayed part ; and frequently if this precaution be not timely resorted to, the mortification will spread to the adjacent bone, and the cure will be beyond the reach of art.

In the course of dissecting dead bodies of the human species anatomists sometimes discover carious bones of the jaw, and even of the legs, where such a disorder was not suspected during the life of the person who was subject to it.

#### SPLINT.

Farriers being wholly unacquainted with the progress of the disorder in the ossified parts, have given different name to the same disease from the variation of a few inches in the position. Hence this bony excrescence, if placed on the knee, they call oslet, if two approach near each other, they name them fuzee ; but when the bony tumour be in the upper part of the shank, it is distinguished by the term splint. All these are the case oseologists call exostosis, which is a deposit of bone generally in consequence of inflammation. This inflammation is often caused by the speedy cut, or by indiscreet blows from the loaded head of the whip, or the hammer of the Smiths, and where no lameness ensues it is always best to leave nature to herself, for the remedy we apply is more destructive than the disease. I have spoken of the periosteum ; the projection of the bone is gradual, so as to enable this membrane to accommodate itself to the enlargement in this disorder, and usually no inflammation of it follows. But where the excrescence obstructs the motion of a tendon or important ligament, it will occasion lameness, and the means of cure must be employed. In some cases it will be right to lay the bone completely bare, and to remove the protuberance by a very fine saw, but when the disease is not inveterate, a strong mercurial ointment may be daily rubbed over the excrescence for a week, and then the following blister may be beneficially applied.

Corrosive sublimate, one scruple; Spanish flies, half an ounce; turpentine, half an ounce; or lard, four ounces.

#### BONE SPAVIN.

This, like the last, is a bony projection, differing only in its locality; being usually situated on the inside of the hock. It commonly arises from the junction of the small bones of this part of the animal: and the lameness, from the consequent interference with the ligaments, and probably with the smaller flexor tendon. In this disease, not only the bones are subject to tumour, but the ligaments enlarge: hence in ligamentary strains in this part, the inflammation should be removed as soon as possible, and a month's time for rest should be gladly sacrificed to the future permanent utility of the animal.

The string halt, frequently degenerates into what is called the ox-spavin; which is a callous tumour at the bottom of the ham on the inside. The mode of cure in cases of this kind, is similar to that recommended in the splent; but when seated on the inside of the hock, more caution is required in using the means, and more doubt is involved in the success of their application.

#### THE CURB

This is a hard swelling in the posterior part of the hinder leg below the elbow; always attended with rigidity, and not unfrequently with lameness. It perhaps is improper to refer it to this division of my subject, as it is seldom a disease of the bone; yet being usually so understood, I have referred it to this place.

It is commonly an induration of the ligaments; at least if this be not the cause, it is the consequence of the disorder, and where cleanliness and gentle friction are ineffectually employed, a blister will often produce the cure: but if it resist these remedies, the cautery must be applied.

#### RING BONE.

This excrescence takes its name from its circular form: it is a hard callous substance, growing in the hollow circle of the little pastern, above the coronet. Like the other cases of exostosis, it commonly is occasioned by a strain or blow. The same method of cure, by blister or cautery, may be here used; which I have just now recommended for the splent, the the spavin, and the curb.

#### THE ANCYLE, OR STIFF JOINT.

I have before said, that the bones articulate with each other. This disorder is, when that juncture or articulation becomes immoveable. If this have actually taken place, to

attempt a cure, is only exposing the animal to excessive pain, without the smallest prospect of success. In its commencement, it however may be sometimes arrested in its progress by motion, friction, and discutient medicines, to open the pores, attenuate the fluids, and disperse the humours; but time must not be lost in milder remedies, and if amendment be not presently conspicuous, the skilful surgeon will proceed to blister and cauterize.

In my next communication on this subject, I shall treat of that part of the anatomy of a horse, which respects the cartilages, and the appendages to bone in general; comprising in the same essay, the diseases to which they are subject, and the remedies to which modern practice has resorted.

I am, Sir, yours &c.

VETERINARIUS.

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IMITATION SUGGESTED OF A PRACTICE FOR HATCHING  
POULTRY, DERIVED FROM THE EGYPTIANS.  
*To the Editor of the Agricultural Magazine.*

SIR,

**I** OBSERVE in your miscellany, you are anxious to collect information from every country where agriculture is practised; both where it is considered merely an art, and where it is reduced to great leading maxims, so as to approach the character of a science. But in the opportunity I have had by a cursory attention to your papers, I have not seen that you are disposed to borrow from antiquity; and yet it must be acknowledged, that those principles of agriculture which led to the exuberant fecundity of Egypt (the granary of the Roman empire) are concealed in the libraries of the Escorial, and among the venerable vestiges of Moorish erudition.

It is not enough to collect information from our contemporaries; some of the most valuable truths have been rendered obsolete from neglect, which it was a public duty to transmit for the benefit of posterity.

We should not forget, that the modern system of irrigation is derived from the observations of the Arabian writers, Abulfeda, Abulferagius, and others, on the inundations of the Nile. It is certainly to modern chemistry that we are indebted for the discovery of the two species of airs of which water is composed; and of the facility with which they are elaborated in the vascular system of plants, so as to constitute their nourishment and support.

The design of this communication is rather to recommend the examination of the ancient practice of the productive districts of the Delta, than to enter into any learned disquisitions upon them; I will not, however, conclude without mentioning a circumstance, which if it appear to some trifling, will

to others seem sufficiently important, and by all will be considered as extremely curious.

The Egyptians were in the practice of hatching chickens in ovens. The eggs were kept heated with so temperate a warmth, which imitates so exactly the natural heat of a hen, that chickens are at length formed and hatched. It has been disputed, whether this can be effected in any other country besides Egypt, where the natural heat of the climate is thought to contribute much towards these productions; but M. Thevenot tells us, that the Duke of Florence sent for some of the Cophitis (who are the only Egyptians that follow this business) and hatched chickens in Italy in the same manner. Very lately some experiments have been made in France for hatching chickens, by the fermentation of tan. Within my own knowledge, some successful trials have been made in the same way, by Mr. Gregory, late of Highgate; and I have no doubt that, with the convenience of a warm room, having a boarded floor, and other suitable accommodations to protect the brood, with which your correspondent Jane Partridge is conversant, that the procreation and nurture of Poultry might be prodigiously extended.

The utility of such an expedient, is to prevent the loss of time with the hen, during the interval of sitting upon the eggs, and of attendance upon her rising family. In the way I have described, setting might be only an occasional resource, to promote the health of the bird; and once a year would be sufficient for this purpose.

It will be seen by the intelligent reader, without further explanation in detail, that a prodigious multiplication of the species might be effected; and that by this means, the lesser and more indigent farmers would make a department, which at present is accompanied with little profit, and with a large expence and attendance upon the markets, productive of a respectable fund toward the discharge of the rental of their farms.

I am the more disposed to recommend this practice, because a well-informed woman, with whom I have this moment conversed on the subject, is acquainted with the experiment in the neighbourhood of London, to which I have adverted, and has no doubt of the success of such an attempt.

I am, Sir, yours, &c.

AFRICANUS.

*London, Jan. 1804.*

## METHOD OF MAKING AND TEMPERING CAST-IRON, PLOUGH SHARES, AND OTHER ARTICLES OF CAST-IRON, FOR AGRICULTURAL USES.

*To the Editor of the Agricultural Magazine.*

RESPECTED FRIEND,

I SEE with pleasure among the useful articles of thy miscellany, thou not only givest a periodical enumeration of all patents enrolled, but occasional disquisitions on the most material of those which are connected with agriculture.

We all know the perpetual inconvenience which arises in the new implements of farming, on which materials of cast-iron are so extensively employed. One of our people, friend Robert Ransome, of Ipswich, has contrived an expedient for tempering cast-iron plough shares, and other articles of cast-iron, for agricultural uses; by which the detriment I have just adverted to, will be avoided for the future.

Without entering into verbose observations on the advantage of this discovery, or on the infinite variety of objects to which it may be directed, I will give the explanation in his own words, which will be intelligible to every reader.

First for the Shares.—The melted pig-iron is poured into a mould, prepared for the purpose, formed with one side or part of iron, and the other side or part, of sand or loam. The side of the share when cast, that lies next the iron mould, will be hard, and of proper temper, while the other side, that is formed in sand or loam, will be soft; and if made of the best soft pig-iron, the share will be much strengthened.

To make the moulds for casting the said plough-shares, I proceed as follows:—First, take a well-finished pattern of a plough-share, made either of iron or other metal; then lay it upon sand or loam, carefully stopping it up until an accurate parting is made of that side of the share which is designed to be hardened; then pour thereon either lead, plaister of Paris, or other proper materials, that will take an exact impression therefrom. With this cast of lead, plaister, or other materials, I proceed to take a cast in sand or loam, of the exact shape, in iron or other metal, which is the part used to form one side of the share, and that gives the hardness and temper to the same. The other side of the share is formed in a flask of wood or metal, with sand or loam, in the common way of moulding the same article. These two parts are fastened together by screws, weights, or such other means as may be used to serve the purpose of confining the moulds together, while the metal is pouring therein. The socket (or tray) of the share, is formed by an iron or metal plug, the shape of the said socket or tray, being inserted into the mould; by which

means the socket is certain of being smooth, and exact in size and shape.

Secondly.—Scarifiers and hoes may be cast in a similar manner to the shares.

N. B. Should it be required to make both sides of the shares, scarifiers, or hoes, hard, and the inner part soft, then both sides of the mold or matrix, must be made of iron or other metal.

Any other articles, wherein the above-described properties are desirable, may be made in the same manner.

I am, Respected Friend,

OBADIAH OAKLEY.

Woodbridge, 28th, 12th month, 1803.

## THE INCOMPETENCE OF CHEMISTS IN THE DUTIES AND LABOURS OF THE FIELD.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last Magazine, under the title Manufactures and Useful Arts, I see, with pleasure, that the Bedfordian gold medal will be presented, towards the conclusion of the present year, to the author of the best Essay on the nature and properties of Manures. I have also noticed somewhere in your work, judicious observations on the melancholy loss of time and labour in procuring manures from distant situations, and afterwards in conveying them in carts upon the land.

We will suppose that the elementary principles in a certain close or field of the extent of one acre are the following :

Sand and Gravel	-	47	parts.
Argill	-	22	ditto.
Mild Calx	-	31	ditto.
			<hr/>
			100 parts.

This soil is deficient in sand, and superabundant in Argill, for the purpose of fertility : and it is proposed to correct it in the subsequent way. We must either use a smaller proportion of the sandy ingredient than its defect requires, or apply a substance that would supply some proportion of the calcareous ingredient also : such are limestone-gravel, silicious marl, effete lime, mixed with sand, or pounded limestone. Suppose the proportion of the substance to be employed were six per cwt. that is, six pounds for every hundred pounds of the soil, then the quantity requisite for an acre may be calculated thus : a square foot of this soil cut down to the depth of fourteen inches, and paring off the two uppermost as con-

sisting chiefly of roots, weighs about 120 lb. and if 100 lb. require six of the manure, 120 lb. will require (7, 1-5th, which in decimals is expressed,) 7. 2, therefore every square foot of the soil will require 7. 2 of the manure: now an English acre contains 43,560 square feet; and consequently 43,560 multiplied into 7. 2 of the manure—313,632 lb. or 208 cart loads, reckoning 1500 lb. to the cart load.

This mode of improvement is proposed by an ingenious chemist, Mr. Kirwan, (I think, Mr. Editor, you have the chemical mania sometimes upon you,) and a moment's attention will shew the extreme absurdity of its adoption, and how imperfectly the students of the laboratory understand the business of the field. Let us consider 10 acres to be thus improved, and I will admit that until the soluble principle of water shall have destroyed the equilibrium of the component elements, the soil will be essentially improved. If one acre require 208 cart loads, a little field of ten acres will require 2080 cart loads, and supposing this limestone-gravel, silicious mail, and effete lime, mixed as described to be fetched only at the distance of four miles, what will be the expence of labour required? This load would require a two horse team, and including loading and delivering in the proper parcels on the land, two loads, with a strong man to attend, would be the utmost that the hours of one day would admit it to perform, so that the correction of the soil would require more than the working days of three years to effect.\*

Messieurs Chemists, you must revive the discovery of the ancient Zosimus, the divine art of making gold and silver, to preserve a farmer from ruin who should borrow from the learned such expedients for the improvement of his ground. For God's sake, Mr. Editor, let us preserve the art of farming a little distinct from the Elixers and Alkahests of your profound students: a certain alliance, a kind of good natured reciprocity, may be formed and pursued between agriculture and chemistry, but this fraternization, this community and unity to which some of your correspondents aspire to reduce them, is as impracticable as the conversion of the milk pail, into the melting cone, or the plough into the pellican.

We have enough to learn, and enough to unlearn, without thoughtlessly rushing into these palpable absurdities.

I am, Sir,

Dec. 27, 1803.

Yours, &c.

R. G.

\* Some little saving would be made by the employment of boys to drive, and the engagement of a number of teams at the same time, so that men might be kept at the pit to load, and in the field, to assist at the delivery, but this is a matter so well understood by every farmer that no particular explanation is necessary.

*Ag. Mag.* Vol. 10.

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## ON PARING AND BURNING.

*To the Editor of the Agricultural Magazine*

SIR,

Dec. 21, 1803.

**I** OBSERVE with much pleasure, that my opinions relative to the effects of burnt clay, *on strong soils*, are similar to those entertained by Dr. Wilkinson, and stated at page 339 of your last Magazine. In the same page the Doctor says, "The following course of crops was taken with success, in the breaking up of waste lands, where no sheep were kept.

1. Pare and burn for turnips, which being within reach of the London cow-keepers, were sold for 10l. per. acre; and drawn time enough for sowing in the autumn.

2. Wheat.

3. Fallow.

4. Barley, and laid to grass.—By the above treatment the ashes secured good crops, without any additional manure." He also says, to the advantage in favour of paring and burning, "permit me to add, that by destroying the turf, the corn is less liable to be injured by the sod-worm, than when sown on the inverted sward."—I have frequently remarked, that the two first culiniferous crops,\* on land which had been long under old grass, were much less productive, *when paring and burning were not practised*, than might reasonably have been expected from the superior quality and freshness of the soil; and as myriads of grubs, insects, and eggs, are discovered on some old grass lands (near the surface) and as the operations of paring and burning have been succeeded by very luxuriant and productive crops, it seems reasonable to conclude, that the grubs were the principal, if not the only, cause of the failure. I do not rightly understand what the Doctor means by the words "taken with success." But if he means that the occupier of the waste land was successful in effecting *substantial* and *permanent* improvement, either the land must have been highly enriched by dung, previous to its being broken up, something singular must have appeared in the case, or my practice has made false impressions on my mind. I know from *experience*, that great crops are obtained after paring and burning; and that these crops *greatly exhaust the soil*. This seems the opinion of almost every practical agriculturist; and if it were well founded, it is obvious, that in order to ameliorate the land, *so as to produce plentiful crops of grain and turnips, after being two or three years in grass*, it should be renovated by a copious application of dung, or

\* I have never observed leguminous crops injured by the grub, in any considerable degree.

dung and calcareous matter, *immediately after the two or three crops which succeed paring and burning.* Instead of this, however, three crops were extracted from the waste land mentioned by your correspondent, in four years; and no manure, except the ashes of the turf, was applied to it!! If the object of its occupier was, not to promote substantial amelioration, but to obtain great crops, *within four years, at a small expence,* then the practice he pursued may be considered as pretty well calculated to produce the desired effect, and it will be readily conceived, that the crops were "taken with success." To such practice, however, and not to the prejudicial effects of paring and burning, we may justly impute the odium with which so many land-holders view those (frequently) judicious operations.

That the fresh grass from the clover and ray-grass seeds will be more nutritious and valuable, *bulk for bulk,* than the old coarse herbage of the waste land, I readily conclude.—What I contend for is this, *that the management mentioned by Dr. Wilkinson, and noticed in this letter, is not calculated to effect substantial and permanent improvement; and therefore (unless where the farmer's interest in the land is to continue but a few years, is not worthy of imitation.*

You may either commit this letter to the flames, or insert it in the next number of your Magazine.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

## ON THE PROGRESSIVE IMPROVEMENT OF ENGLISH WOOL FROM THE SPANISH CROSS.

*To the Editor of the Agricultural Magazine.*

SIR,

**A**FTER having sufficiently exhausted your patience by answering objections to the measure of improvement in our Rural Economy, by the introduction of fine clothing wooled sheep, I may probably crave permission to trouble you with some remarks on the no less important subject of tillage, particularly as it refers to the culture of that most invaluable esculent production the potatoe.

In the mean time, resuming the former subject, I beg leave to suggest that a flock, the offspring of the first cross by the Spanish ram would be the most profitable to the farmer. Because a competent number of this description are to be much more speedily obtained; and that the first cross acquires an indefinitely small fraction more of the Spanish blood, than all the subsequent crosses taken together, however numerous; in other words, the fleece on the first cross is presumed to have

acquired very nearly one half of the amount of its improvement; in a single year, both in weight, and in advance of value per lb. whereas, to acquire the remaining half, many years, perhaps six to eight, would be requisite.

Rejecting fractional minutiae, I beg leave to assume the present value of the *unwashed* Spanish fleece to be 4s. per lb.; and of the *washed* Ryeland 2s. and further, the weight of the former to be \* 8lb. and of the latter 2 lb. then the following sketch will serve to convey some idea of the progressive improvement.

Spanish 8 lb.	} med <sup>m</sup> . wt. 5lb.	} viz. 5lb.—	s. d.	£. s. d.
Ryeland 2 lb.			3 0	or 0 15 0
Spa. price 4s.	} med <sup>m</sup> . price 3s.	}	First cross.	
Ryeland 2s.				
Spanish 8 lb.	} med <sup>m</sup> . wt. 6½lb	} — 6½lb.—	3s. 6d.	or 1 2 9
1st. adm. 5 lb.				
Spa. price 4s.	} med <sup>m</sup> . pr. 3s 6d	}	Second cross.	
1st. adm. 9s.				
Spanish 8 lb.	} med <sup>m</sup> . wt. 7¼lb	} — 7¼lb.—	3s. 9d.	or 1 7 2½
2d. adm. 6½lb.				
Spa. price 4 0	} med <sup>m</sup> . pr. 3s 9d	}	Third cross.	
2d. adm. 3 6				
Spanish 8 lb.	} med <sup>m</sup> . wt. 7 lb	} — 7½lb.—	3s. 10½d.	or 1 9 6¼
3d. adm. 7½lb.				
Spa. pr. 4s. 0d.	} med <sup>m</sup> . pr. 3s 10½	}	Fourth cross.	
3d. adm. 3s. 9d.				
Spanish 8 lb.	} med <sup>m</sup> . wt. 7¾ lb	} — 7¾lb—	3s. 11½d	or 1 10 9
4th. adm. 7¾lb.				
Spa. pr. 4s. 0d	} med <sup>m</sup> . pr. 3 1 ½	}	Fifth cross.	
4th. adm 4 10½				

Pursuing this calculation indefinitely, and to speak in mathematical terms, it is evident that the fleece of the production would never completely reach the value of the original or 32s. but be continually approximating.

Such, less than hair breadth distinctions, however, are not of the slightest importance in practice.

The 4th cross, I presume, is perfectly sufficient for every practical purpose, even for the finest fabrics of the woollen manufacture, as well as for extending the propagation of the race.

In point of practice I even incline to think with some men of experience, who have asserted the fact, that by attentive selection individuals of the offspring in the fourth or fifth generation may sometimes be found to exceed the male progenitors both in weight and fineness of fleece.

I remain, Sir, your very obedient servant,

Bath, Jan. 14, 1804.

NEHEMIAH BARTLEY.

\* I have sheep which produce upwards of 10lb.

# INTERVALS IN DRILLING, TURNIP CULTURE, &c. IN REPLY TO TWO CORRESPONDENTS.

*To the Editor of the Agricultural Magazine.*

SIR,

Norfolk, Jan. 16, 1804.

I AM obliged to your Correspondents, J. S. and Agricola Northumbriensis, for their observations in your last Number, on my communications of the 26th of October, and the 16th of November last, and as the former gentleman expresses a wish at the conclusion of his letter, that I would, through the medium of your Miscellany, make my observations on the objections he has stated, I shall take leave once more to trespass on your useful pages. First, then he must not give me credit for the contrivance, (I mean of the toed coulter.) If he refer to my letter of the 16th of November, he will find that I do not claim it. I took the first from a drill belonging to a neighbour, which was filled up with toed coulters of cast-iron, extremely awkward and clumsy, and too broad and blunt, that they could not pierce the *flag* properly, even with a weight attached to them, as heavy as a chain could conveniently raise. I took the hint, I say from these, but had mine made of hammered iron, narrow, light, and very sharp. I shall candidly acknowledge that I have never used the horse-hoe, and though drilling is very generally practiced in this neighbourhood, I do not know a single farm in it, on which that implement is employed. I intend not to deny its merit, but at the same time must dissent from the opinion of J. S. "that the existence of the drill husbandry depends *absolutely* upon the horse-hoe." Setting aside, for the present, all hoeing, it is of material advantage that the seed be put into the ground at an even and proper depth, and at regular distances, which is effectually done by the drill, but never by broadcast and the harrows. The different spaces between the drills, ought in my opinion to depend upon the quality and condition of the land, and of course the probable branching of the plants. When land is *lusty*, wide space may be preferable to narrower, as you may expect a better crop in every respect, where the plants have sufficient (but not too much), room to branch out and spread, than where they stand too thick, as in this latter case they will run up spiry and weak, producing a small short ear, and thin grain. But where land is of inferior quality, and in *less heart*, consequently where the plants are likely to branch much less, the drills should be proportionally closer, but the seed not thicker in the drills, and I know from experience, that I have some land in my occupation, on which in a favourable season, I should obtain an excellent crop of barley, even if the drills were a foot asunder;

and other land, on which the crop would make a very poor and naked appearance at harvest time; if the drills were more than five inches apart.

My peas I drill at nine inch intervals, that the hoers may have room to walk without treading on the plants, but was it not for this necessary consideration, I should also drill them at five inches, to insure, as far as possible, a thick crop, which as every agriculturist knows, improves the land and leaves it clean, whereas a thin crop of peas, leaves it full of weeds and rubbish, notwithstanding all the care that may have been taken to keep the crop clean. But now as to hoeing, I have never yet, as I before observed, had the courage to employ the horse-hoe, (and according to the opinion of J. S. I never can use it, while I adhere to my seven inch intervals, this I do not assent to,) but have always had all my wheat and pea-crops well hand hoed, and I never could have had this done perfectly, without the drill, as the regular space formed by that machine, whether broad or narrow, enable the hoer to cut all the land completely, using a hoe of a breadth proportioned to the spaces between the rows of corn, and though the expence attending the hand hoe, is certainly much greater than that of the horse hoe, it is not very heavy, and I had the whole of my last year's wheat and pea crops well hoed for 2s. 6d. per acre. It is my intention, this year, to hoe my wheat with the horse hoe, and I do not doubt of accomplishing it without injury to the crop, even in my seven inch spaces, and if I had had my fears, they would, in a great degree, have been removed by an observation in the letter of J. S. (viz. "this implement, (the horse hoe) can never be safely employed when the corn is sown in rows at a less distance than eight or nine inches." This observation certainly bears the appearance of absurdity; but I will explain myself.—When we mention the distances from row to row, we do not mean from the edge or outside of one row to that of the other; but from centre to centre; and as Cooke's *cast-iron* coulter are not less than two inches wide, there is an inch lost on each side; so that if the intervals be what we call eight inches, of course there are only six inches remaining for the operation of the hoe. Now as my hammer'd-iron coulter are not more than one inch wide, consequently in my seven-inch intervals, I lose no more than half an inch on each side, and have therefore the like space of six inches remaining for the hoe. But having this, I do not see why narrow intervals may not be hoed as well as wider, provided the hoes be of a proportionate width, as the man who guides the hoes, has only to take care that one of them be in its proper place, (from which one he should never suffer his attention to be taken,) and all the others, if regularly fixed, must be right. In fitting up my implement, I shall not

have any hoe made to go between the trod outer rows of corn, as that must be attended with danger, for be the man who guides the drill ever so expert and careful, it is impossible but at times the outer rows of corn must approach nearer to each other than the regular distances, but this is impossible to happen in those intervals, between the trod outer rows of the same drill. As to barley, we never find it necessary to hoe it when put in as it generally is (and always ought to be) after a clean turnip fallow, the only weeds which appear among it, being docks and thistles, on either of which the hoe would do no service, but the good farmer will endeavour to rid his land of them, by drawing up the one, and cutting the other. I have no farther observations to make at present on J. S's letter, except to assure him, that though I do not feel disposed to increase the distance in my rows of wheat, I shall do so in all probability, if I find it impracticable to horse hoe in the present spaces. I beg him to accept my thanks for his very candid and gentlemanly observations on my letter of the 16th of November.

I feel myself flattered that any communications of mine have been thought worthy the observation of your old and very intelligent correspondent, Agricola Northumbriensis, and entirely agree with him "that the results of comparative trials would be still more satisfactory." He must however recollect, that my operation was put in practice from necessity, on the spur of the occasion, with such implements as I had at hand, and that the major part of my horses and workmen, were then employed after other business (getting up the hay) from which I did not think it prudent to take them, so that I had not sufficient force to get my land ridged, had I been so disposed, I had no predilection for the intervals of nine inches, but took the drill with the coulter as they happened to be fixed, and as the seed was put in late in the season; and also from the observation I have made of the crop, believe that the turnips would not have attained a greater size than they are of at this time, had the intervals been wider. The weeds which had come up on the land were *Blue Bottle* (Bugloss) very thick, and occasioned, I believe, by the land having been ploughed deeper than usual, which probably brought the seeds which before had been deeply buried, up to or near the surface, and consequently within the action of the vegetative power. The scuffer destroyed them all completely, there was scarcely one afterwards to be seen. The crop has fully answered my expectations, and thus far it has supplied the purpose of a comparative trial, that some of my neighbours re-sowed their turnip lands at the same time in the old method, and without success.

I am much pleased with A. N.'s description of his drilling Turnip-seed on ridges, the manure being buried underneath; and shall certainly give his practice a trial on my farm next summer. I once saw a similar process going forward with an implement which I think was called a Scotch-drill, (and which answers to the description given by A. N. of his) on the farm of that estimable character, whether we consider him as a public or a private character, or a farmer, T. W. Coke, Esq. What success attended it I am not certain of, the turnip seed was Swedish, was sown very early, and I think destroyed by the fly. I shall not dispute with A. N. on the superiority of the Norfolk Farmers in the cultivation of the turnip, but they are not often guilty of the slovenliness which he mentions (I do not mean to say that he attributes it particularly to them) in leaving a large portion of the manure on the surface. The best practitioners after the fallow has been well ploughed, and made perfectly clean, set on the manure, not immediately before the last or seed ploughing, but about a month before seed time. It is then *scaled* (ploughed in very shallow) rolled with a light roller, sometime afterwards perhaps harrowed, and at the proper season taken up the full depth for the seed. The manure by this process is well mixed with the soil, and very little if any will be seen on the surface. I certainly intend to *drill* (not *drop* as erroneously printed in your No. 51) the whole of my turnip crop this year, and the intervals will be according to the probable *fertility* of the land, as mentioned in my observations on J. S.'s letter. Those which are sown in good season, and on land likely to procure large roots, at not less than twelve inches, which if properly *set out* by the hoe, in a quincunx form thus . . . . . will be full thirteen inches from plate to plate. . . . . I should doubt whether putting the seeds on . . . . . ridges, on our light sandy soils, would not hazard the destruction of the plants in dry weather, when in their infant state; but as I said before, I shall try it. I do not think we shall get our hoeing done more cheaply by drilling our turnips. Our labourers, I believe, would prefer hoeing broad-cast turnips, to those drilled in any way, and at any reasonable distance whatever. The plants are more single, and easier to hoe when broad-cast, than drilled, besides there are many spaces left without a plant in the old method, so that they often get paid for ten acres or more, when in fact they have hoed only nine. In drilling, few places can be missed, so much the better for the master, who must not therefore grudge the expence of hoeing. I have now Sir only to apply the same observations to the remarks on my communications by A. N. which I did to those by J. S.

I have been vexed to see, that some of your correspondents have not always preserved their temper, but made their observations on the communications of each other, with ill-humour and asperity, from which it is likely a disgust has arisen, that has deprived your readers of much valuable information. From the discussions in your entertaining and instructive Miscellany, many useful hints may be obtained, and though your numerous friends may exercise the "fortiter in re," I hope they never will dispense with the "suaviter in modo." Some of the Farmers in this country will make but a poor business of it this year. On many farms there is not a single turnip (the Sheet Anchor of our husbandry) wheat so thin and bad, that the Millers and Merchants do not like to buy it at *any price*, so that they must depend upon what they can make of their barley, at ten shillings per coomb; and much of this must go to feed cattle, if they mean to farm next year. Unfair means seem to be taken to depress the price of corn; but the government must take care that the taxation on barley be not so heavy as to produce the ruin of the farmers, the most useful and respectable class of the community. We must not reverse the old fable, and starve the members to fatten the belly, or all as in the former case will perish together. But the state of the landed interest seems likely soon to be laid before Parliament, and when we recollect that the first man in the kingdom, possesses one of the best hearts, and is a farmer himself, it is not unlikely but he will make his ministers attend to the distresses of his brother agriculturists. But I fear I have already trespassed too much on your time.

I am Sir,

Your constant reader,

P. J.

P. S. I am sorry to see your last volume conclude without a list of errata. The good regulation you have established of inserting no communication in the Number of any month received after the 18th of the same, will, I doubt not, in a great measure prevent the necessity of similar observations from your friends, as it will afford you sufficient time to correct the press.

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### PATERISH SHEEP.

*To the Editor of the Agricultural Magazine.*

SIR,

**P**ERMIT me to ask a few questions, through the medium of your very useful Magazine, concerning *paterish sheep*; in hopes that some of your worthy correspondents may give me a satisfactory answer.

*Ag. Mag. Vol. 10.*

G.



The sheep that we call Paterish, in Sussex, are taken with a fit of turning round continually, all the same way; the cause is, a cist, or bladder, filled with very clear water, in the venticle of the brain: some have one in each venticle, and others have the cist of both sides joined in one. In all the bladders that I have extracted, there has always been several hundreds of very small macula, exactly in the form of eggs. I have taken them out of living sheep, and they have lived several weeks afterwards; but without further advice I fear I shall never make a complete cure. I have seen a great many sheep's heads inspected by a very eminent surgeon; but have not been able to improve much from it.

Young sheep are most subject to this disorder, from the age of ten to twenty months old. Some farmers lose a tenth or perhaps more of their young stock by this disorder. The questions I ask are these:—What is the original cause of this disorder? What is likely to be a preventative? And which, if any, is the most probable way to make an effectual cure? If this is thought worthy of a place in your Magazine, by inserting it you will very much oblige,

Your humble servant.

Falmer, near Lewes,

Dec. 21, 1803.

E. DOWLEN.

P. S. I have several more questions to ask at another time concerning sheep.

## WEIGHT OF SHEEP.

*To the Editor of the Agricultural Magazine.*

SIR,

Jan. 16, 1804.

IF you will be so obliging as to insert the weight of the sheep as under, in your useful and entertaining Magazine, you will very much oblige a constant reader, and a well wisher to the same.

Dallington, near  
Northampton.

RICHARD EARL.

Two three shear, weight as under:

	st.	lb.		st.	lb.		lb.		lb.
First	29	5	offal	8	7	per quarter	59	and	1 over
Second	26	1	ditto	7	4	ditto, ditto	52	and	1 ditto

The three following were shewn in Mr. Wooton's yard for the prize; weight as under:

Two Shear.

	st.	lb.		st.	lb.		lb.
First	23	4	offal	7	2	or	47 per quarter
Second	23	0	ditto	7	7	or	46 ditto
Third	22	2	ditto	7	5	or	44½ ditto.

The offal includes, inside or rough fat.

Head and pluck.

Entrails.

Blood

And Skin.

The method of cutting off the shin bone at the knees, and the hind legs at the houghs, is not customary in our market, which must add to the offal and help to diminish the carcase.

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ON A PASSAGE FROM THE PEN OF DR. HUNTER, INTRODUCED INTO A QUARTERLY SCOTCH MAGAZINE.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N a letter from Dr. Hunter, of York, introduced into a Scotch Magazine for November last, I observe, with some displeasure, the following passage.

"I find many papers of mine inserted in an Agricultural Magazine, published in London; and these papers not being mentioned as extracts from the Georgical Essays, have the appearance of making me a supporting correspondent of that work, which I really am not."

In this paragraph, two charges are made against you.

First, that you have availed yourself of the Georgical Essays without referring to the authority from which they are extracted.

Secondly, that you have implicated this respectable physician in representing him as a correspondent with your work.

From these remarks, I suspect the Doctor is troubled with a little redundance of gall in his constitution, and that in consequence of the overflow of this humour, he has seen with a jaundiced eye the contents of your publication. At least in your late numbers you have religiously pointed out the authority of which you availed yourself. You will recollect that I was so fatigued with the repetition of his desultory strictures, that I expressed a wish they might be discontinued, and I was happy to see your compliance with my suggestion in the last numbers.

In your review of that work under your Critical Catalogue of April last, you very rightly object to the defective arrangement of the materials, which must be fatal to the success of a work of this description; because if method or skill in distribution be required on any subject, it is necessary in agriculture, that the quackery of Doctors, and the speculations of theorists may be completely separated from the art, in order that it may be established on a few didactic principles drawn from acknowledged and accurate experiment.

The objection made by the Doctor, is the more extraordi-

nary, as it is by express permission, given in his publication, and noticed in your review, that you have probably availed yourself of some of the more useful materials from this far-rago : and you properly intimate that the work would not bear indiscriminate use, and that it is only the papers that are new and important to which you will condescend to have recourse.\*

If on any occasion you have availed yourself of the awful name of the Doctor, without acknowledging the classic medium through which this pharmaceutic Maro has imparted his wisdom, it must be from a conviction, that the Apollo of Mantua, and the Esculapius of York, are known to all mankind, and that any further explanation would have been needless, if not obtrusive. If, indeed, from any other motive, you shall have substituted Virgil for Virgil's Georgics, or Hunter for Hunter's Georgics, I may perhaps have to lament, that there is as much deception and knavery in the art of writing as in the art of healing ; and that the golden beard of the Doctor's patron has equally attracted the avarice of both professions.

I am not at all capable of estimating the portion of disgrace to which you will expose the Doctor, if any inattentive reader should conclude he is a correspondent of your work. But this I know, that he has submitted to no small degradation by indulging his spleen on an occasion so frivolous, and that the grey hair is never so respectable as when the eye is discerned through it, glowing with all the candid and generous sensibilities of our nature.

What can have influenced the Doctor to have abandoned the labours of his profession ; to have dissected plants instead of animals, to have analysed mud instead of mucus, and to have compounded dung instead of diachylon ; but that he might benefit his species by the application of his talents in a more productive way than by enlarging the annals of empirics, and that he might exchange the absurdities of Argentinus for the wisdom of Columella. If this be a correct view of his motives, what ingenuity can discover any objection to the circulation of beneficial truths through the channel of your miscellany.

Without venturing on this solemn occasion, to advert to the Ex Sutore Medicus of the fabulist, I may apply the Calvus et Musca, the Bald Pate and the Fly of the same facetious writer. You will excuse me, Mr. Editor, if I compare you to that contemptible insect which chanced to repose on the glossy

\* The passage to which I allude is as follows. " We already have, and shall in future avail ourselves of the author's permission, to lay before our readers, such of the original papers that have appeared for the first time in this collection, as we conceive most worthy the attention of the practical farmer.

scalp of Calvus, when a furious blow was directed at the little fugitive. The latter, smiling, withdrew, leaving the angry dotard to lament the sanguinary effects of his own violence.

“Physician, heal thyself,” and then attend to this observation of the entertaining moralist.

“Hoc argumentum veniam magè dari docet,  
Qui casu peccat, quàm qui consilio est nocens :  
Illum esse quavis pœnâ dignum iudico.”

I am, Sir, yours, &c.

DEMOCRITUS.

## ON THE USE OF MADDER IN AN UNDRIED STATE.

*To the Editor of the Agricultural Magazine.*

SIR,

I observed an intelligent paper, signed Agricola Meridionalis, on the subject of Tythes, in which the article of Madder was mentioned. I have since seen a letter from M. Michel, Secretary to the Society of Agriculture established at Beauvais, which refers to a method of using the roots of madder green without drying. I there notice that a trial was made of dying two pieces of thin flannel with the roots of some Madder, newly taken up out of a Surgeon's garden on the Town Rampart. Messrs. Guerin, who made the trial, undertook it without the smallest expectation of success, but the result was, that it went twice as far as the dried Madder, and the flannels surpassed, in liveliness of colour, every piece which could be produced, prepared from the Zealand Madder.

If this account be correct, it will be a material inducement to your correspondents for the cultivation of this plant, and I hope some among them will be able to inform me whether the practice have been adopted in our provincial establishments connected with the staple manufactures.

I am, Sir, yours, &c.

Dec. 25, 1804.

JOHN DANVERS.

## ROTATION OF CROPS SUITED TO MANY VARIETIES OF SOIL, RECOMMENDED BY THE REV. H. J. CLOSE.

*To the Editor of the Agricultural Magazine.*

SIR,

IN looking over some of the late Communications to the Board of Agriculture, I have discovered the following table, with which the Rev. H. J. Close, concludes his letter to the President, and I have considered it so intimately connected with the improved principles of modern Agriculture, as to deserve a place in your Miscellany. You will observe,

the immediate object is the course of crops most suited to the different species of earth detailed in the first volume, but these rotations of husbandry are only recommended on condition that all the crops are hoed well, and are kept perfectly clean, and that the turnips, pease, and beans be put in double rows of three feet ridges, and the cabbages in single rows of three feet ridges.

Anxious to hear the opinion of your correspondents on this admirable system,

I remain your's, &c.

Thorp Arch, Jan. 4, 1804.

T. T.

### A TABLE,

Shewing at one View a Course of Crops adapted to various soils, for any number of years.

Soil	Turnips or Cabbages.	Oats	Beans and Clover.	Wheat.	Turnips or Cabbages.	Oats	Beans and Vetches.	Wheat.
Clay	{ Turnips or Cabbages.	Oats	Clover.	Wheat.	Turnips or Cabbages.	Oats	Beans.	Wheat.
Clayey loams.	{ Turnips or Cabbages.	Oats	Clover.	Wheat.	Turnips or Cabbages.	Barley	Pease.	Wheat.
Rich loams or Sandy loams.	{ Turnips and Potatoes.	Barley	Clover.	Wheat.	Beans.	Barley	Pease.	Wheat.
Peat Earth.	{ Beans	Barley	Pease.	Wheat.	<i>Ad infinitum</i>	Barley	Pease.	Wheat.
Chalky sub- stratum.	{ Turnips.	Barley	Clover.	Wheat.	Potatoes.	Barley	Pease.	Wheat.
	{ Turnips.	Barley	Clover.	Wheat.	Potatoes.	Barley	Pease.	Wheat.

But on this soil ten acres in every hundred should be laid with Saintfoin for eight or ten acres.

Soil	Turnips	Barley	Clover	Wheat	Potatoes	Barley	Pease	Wheat
Gravels.	Turnips	Barley	Clover	Wheat	Potatoes	Barley	Pease	Wheat
Light Lands.	Turnips	Barley	Clover	Wheat	Potatoes	Barley	Pease	Wheat
		Barley	Rye Grass	Rye Grass	Rye Grass	Pease	Rye.	

EMBANKMENTS, WITH SWING-GATES OR VALVES, FOR OCCASIONAL IRRIGATION, ON THE SHORES OF THE SEVERN, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

I Observe some of your papers signed "Chorographus," and the last under that signature applies to the agriculture of the county of Salop. In your address to your correspondents you express a wish, that these communications may attract the notice of those "whose local situations will give them the best opportunity of enlarging the body of intelligence on this department of provincial agriculture."

Thus invited by you, Mr. Editor, I have taken the liberty of imparting an improvement which is carried to great perfection upon the land subject to the flood of the rivers Severn and Vernieu, in Montgomeryshire, bordering upon that county, by embankment. The banks are fixed at discretionary distances by the side of the river, so that when embanked on both sides the course of the flood may not be too much narrowed. In many instances it should be from forty to fifty yards. Yet there has been a great inconvenience attending this improvement, for though the produce of hay, &c. has been all saved, yet this land has been found to be much less fertile, by water being kept off, and in some places it has occasioned the banks to be disregarded. There is, however, an easy remedy for this, by fixing at proper distances troughs with swing-gates or valves, by which the water may be suffered to overflow as usual from November to March inclusive, and be shut out in the summer months; thus the fertility would sustain no injury, and the produce would be preserved. This is an improvement of great utility and more neglected than that of floating.

Consider for a moment, the immense quantity of hay, as well as pasturage, that may be preserved, particularly in wet seasons, and at a very small expence; many thousand acres may be saved from pernicious inundation, at 3d. or 6d. per yard, on the side of the water boundary.

By the Montgomeryshire inclosure Act, 3,000l. has been laid out in this important improvement.

I am, Sir, yours, &c.

Jan, 10, 1804.

P. G.

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LIXIVIUM USED BY THE FARMERS OF NIDAU, IN SWITZERLAND, TO PREVENT THE SMUT IN CORN: FROM THE ACCOUNT OF MR. N. E. TSCHARNER.

IN the country of Nidau, where they grow a great deal of good corn; bere or square barley in particular, is very much subject to be smutty.

A farmer of Mœsiguen boasted he had a secret of preserving corn from that distemper; and in fact, his assertion was proved to be true, by his crops being more free from it than those of his neighbours.

He made use of a lixivium to wash and prepare his seed before it was sown.

Not having time to assist all those who applied to him, he came to a resolution of selling the receipt to his neighbours; one of whom was disinterested enough to make it public.

The more this method of preparing the seed corn was known and tried, the more credit it acquired; and at this time no farmer in that neighbourhood is lazy enough to grudge the trouble of preparing his seed in this manner, or covetous enough to hesitate at the expence of the operation.

A wealthy and intelligent farmer communicated the receipt to me, assuring me at the same time, that for ten years passed, which he has used it, his corn has been entirely free from the smut; without excepting last year, when the smut made such havock amongst the wheat and bere.

To twenty gallons of water, put about half a bushel of quick lime, half a pound of soap, and the same quantity of salt-petre. These two ingredients may be saved, if the draining of the farmer's yard be used instead of plain water. These twenty gallons of water should be boiled, till the lime is entirely dissolved.\*

The farmer begins to prepare his seed when the lixivium is almost cold. He first puts half a bushel of seed into a tub on which he sprinkles, with his hand, to the quantity of two quarts of the mixture, keeping the corn stirring all the time with a stick.

He then throws in another half bushel, which, he in the like manner, sprinkles with the mixture, stirring at the same time, the whole mass well. He continues this work till the tub is nearly full, using about two quarts of the lixivium to half a bushel of corn.

He then covers the tub with a course cloth, and leaves it for eight and forty hours to dry, only he must stir the corn twice in that time to forward the evaporation of the superfluous moisture, and to spread the dust of the lime in all parts alike.

It is to be remarked, that, in this operation, the corn in-

\* On a farm within twenty miles of London, a tub was constantly kept to receive the urine of the family, when the time of wheat sowing drew near. This human urine was poured on the wheat, after the grain had been mixed with a little slacked lime. In this state it remained for twelve hours, on a boarded floor; after which it was used for sowing. This practice was continued for some years, and during those years smut was never seen or known on the farm.

creases in bulk one-sixth part; of course, where five bushels of unprepared seed would be sown, six must be used.

The farmer who furnished me with this account says, that he always prefers using the lixivium milk-warm; and that of all drainings of yards, he likes that best which comes from horses or hogs, which may occasionally be mixed with the muddy water of bogs or ponds.

T. W.

## CRITICAL CATALOGUE.

*A New System of Farriery, including a Systematic Arrangement of the External Structure of the Horse, illustrated with copper-plates representing the exact proportions of a Blood Horse, with a Description of the Defects that tend to impede velocity. With Directions for ascertaining, with exactness, the age of a Horse, from his being foaled, till fourteen years old. To which are added the Improved Mode of Treatment, and Principles recommended by the Veterinary College, in every disease of difficult management. Interspersed with occasional References to the dangerous Practice of Country Farriers, Grooms, &c. and the Method of curing the Principal Epidemic Diseases, to which cows, sheep, &c. are subject. By John Feron, Veterinary Surgeon to his Majesty's 13th Regiment of Light Dragoons, &c. &c.*

Mr. Feron denominates his book a *New System of Farriery*, but we must confess ourselves at a loss to discover wherein the Novelty consists, as he has done little more than retail the observations of Mr. Coleman, which have long been before the public.

We mean not to disparage the system adopted by the ingenious Professor of the Veterinary College, a system which has powerfully contributed to remove prejudices, and to introduce a more rational mode of treatment in the practice of animal medicine.

The Writer sets out with observing: "the utility of a knowledge of the Veterinary Art is manifested by daily experience: and although so many books have been written on the subject, that any person would imagine more to be superfluous; I am sorry to say very few of them have proved by actual experiment what they assert." After decanting on the ignorance of Farriers in general, he proceeds to state: "In describing the different surgical operations, I have almost invariably followed the accurate and judicious method of Mr. Coleman, having seen the practice of this able professor, and followed it successfully myself during many years of an extensive practice; in short, I have been particularly attentive to admit nothing but what is justified by experience."

Thus for little more than the recommendation of a method of treatment, the efficacy of which has been already established by experience, the Author requires the moderate sum of one guinea, and for a less quantity of matter than is contained in the compass of an ordinary duodecimo.

"Having many times, continues the Author, considered deficiency which exists in the Veterinary Art, in respect to the external structure of the horse, I have introduced here rules, or easy

Ag. Mag. Vol. 10.

H



scriptions, by which every man will be able to judge of the good or bad conformation of a horse. There are works, I confess, which explain the external proportions of the horse; but after the Readers have gone through a few pages, they find themselves puzzled with the confused idea they give of the anatomical, geometrical and mechanical action of the muscles. Whilst in the present work I have been very particular in observing the exact proportions of horses, this being the only thing which I consider as truly important when treating on that subject."

The author has illustrated this part of his treatise by several plates, which are well calculated to assist the explanation. This is preceded by observations on the age of horses, which are likewise accompanied with a plate of the teeth in illustration of a subject of considerable interest to the purchasers of horses. Next follows the method of treatment of the various diseases to which the horse is subject, and this is succeeded by observations on breeding, which certainly contain reflections worthy the consideration of the breeders of these useful animals.

Having explained the impropriety of breeding from unsound horses, and the impolicy of that economy which confines the mare in foal to the impoverishing treatment of a straw-yard, he continues; "But a matter of much greater consequence, the inattention to which has been productive of more disappointment and vexation, is the crisis of delivery; an event so wonderful that it becomes a matter of admiration how the animal sustains the shock without a frequency of danger. Nevertheless it is worthy of remark that difficulties are apt to take place which generally terminate in the death of one or the other, and not uncommonly in the destruction of both.

"However common this unlucky circumstance may be, I do not recollect an instance in which a proper attempt has been made for the recovery of the young animal, in case of suspended animation; on the contrary it is pronounced dead with all possible speed, and immediately cut to pieces for the benefit of the dogs, without reflecting any further on its present situation. This circumstance, however, ought to be very minutely investigated, particularly if the apparent death should proceed from hard delivery; as we know that such an unfortunate occurrence often produces an accumulation of blood in the cavity of the head, by a privation of air, or by impeded extension of the lungs; accidents which generally follow when the colt is foaled with the hind instead of the fore-feet first; or the anus foremost without any appearance of legs; or when the fore-legs present themselves in their natural state, but with the head bent backward upon the shoulder. All these unnatural situations may suspend life without destroying it entirely, a case which I have frequently witnessed during the first ten years of my private practice.

"The first treatment in cases of suspended animation, whatever may be the cause, should be directed to excite a susceptibility of stimuli; and next for restoring susceptibility itself. An advantage so essential must induce us to be particularly careful in the choice and application of stimulant medicines, and not to administer such as are too powerful at first, which would indeed excite irritability, but

in too violent a degree; and it is also deserving attention that, in the beginning of the process when susceptibility of irritation is but slight, violent stimulants may be pernicious, by tending to suppress the latent sparks of life. But by a due proportion in the administration of those medicines, and being skilfully managed, the action and re-action of the vital power may be restored, and the system again become susceptible of stimuli.

"It is difficult, and sometimes impossible, to discover whether or no the vital principle is entirely suppressed, and the animal apparently dead, may be insensible to the effect of the strongest stimuli, such as the operation of the knife, and the effects of a red hot iron; and yet the vital power may not be extinct.

"These remarks on suspended animation will be sufficient to point out to every humane master and faithful servant, the great danger of destroying a colt of considerable value, before having previously tried the following treatment.

"If a colt is foaled apparently dead, in a place where little or no assistance can be got, let his tongue be immediately stimulated; rubbing it well with common salt. This stimulant may promote expectoration, and thus admit the external air freely: I have seen several instances of colts foaled apparently dead, recovering all the symptoms of animation in less than twenty minutes. Intilling a few drops of volatile spirit, into the inner corner of the eyes, may likewise operate with good effect; but should the case prove obstinate, and vitality continue suppressed, I recommend the application of the actual cautery, on one or both sides of the chest, or under the belly. Rubbing the legs well with oil of turpentine, is capable of producing a good effect also.

"If any signs of life should be perceptible, then it would be an excellent practice to supply the blood with a greater proportion of oxygen gas, pure or diluted with atmospheric air. Stimulating the nostrils with the vapours of vitrolic or marine acid, will also be a very proper application.

"But a more proper method of immediately stimulating the heart and arteries would be, by transfusing new blood into them. This operation deserves particular attention, in cases of suspended animation. It is performed by injecting the blood that comes out of the artery of a calf or sheep, into the jugular vein of a colt that is apparently dead at the time he is foaled, and is done in the following manner, viz.

"The animal you wish to kill, in order to save the other, must be well secured, and laid as near the other as possible. Then a longitudinal incision must be made in its neck, that you may find the carotid artery, which lies along side, and immediately under the jugular vein; having previously secured two injecting pipes, such as those used for injecting anatomical preparations, at each end of a tube, long enough to reach from one animal to the other. One of these pipes must be introduced into the carotid artery of the calf, and the other into the jugular vein of the colt apparently dead; the artery must be well secured with a ligature, just under the pipe, until the other pipe is fixed in the vein of the colt, or other animal, that we suppose to be in a state of suspended animation only.

When the apparatus is ready, you may cut the ligature of the carotid artery of the calf; you will then see the blood that comes immediately from the heart, running from one animal to the other. This operation is almost certain to restore life, if the organic fibres of the heart and arteries can be at all effected by stimulants."

The concluding portion of the work contains observations on some of the diseases of oxen, cows, and sheep.

We should conceive, that upon the whole, this volume is likely to prove of greater utility to those who breed horses for the turf, than to the public in general. To the former, the part treating of the external structure and proportions, must more particularly apply; and there persons of that description will probably find hints that may prove of considerable advantage.

*Essays on Miscellaneous Subjects.* By Sir John Sinclair, Bart. 8vo. Cadell.

No person interested in the progress of agricultural improvement, can be a stranger to the name of Sinclair—a name which its present possessor has rendered synonymous with benevolence, patriotism, and zeal for the public welfare. Of this, if further proof were required, the present volume affords additional demonstration; and the reader is obliged to confess, that its contents are equally honorable to the talents and the feelings of its author.

Instead of prefixing a long preface to his work, expatiating on the importance of the subjects of which he treats, maintaining the justice of the principles he lays down, Sir John, with singular modesty, contents himself with a few lines, in which the mind and intentions of the writer are admirably displayed.

"I should hardly have ventured (he says) to have troubled the world with this publication, had I not flattered myself with the idea, that any person who will take the trouble of perusing the following Essays, will on the whole be inclined to say, 'This is the work of an author who seems to have directed his attention to subjects connected with public utility and national improvement, and whose favourite object was, *not to have lived in vain*.'"

The volume contains twelve essays, and we shall as briefly as possible, endeavour to give the reader an idea of their contents.

1. Observations on the nature and advantages of statistical enquiries; with a sketch of an introduction to a proposed analysis of the statistical account of Scotland. The statistical reports of all the parishes in the northern section of the island, it will be recollected, were obtained by the author from the Scottish clergy, and of these he intended to draw up an analysis, as soon as the collection should be completed; but for some time past his health, and other occupations, having prevented him from engaging in so laborious an attempt; he has therefore thought it advisable to explain the nature of the plan he intended to pursue; as it might afford some useful hints to any other person willing to commence such an undertaking.

2. The second essay contains observations on the means of enabling a cottager to keep a cow, by the produce of a small portion of

arable land. The plan here proposed by the author, is certainly entitled to the serious attention of the landed proprietor; and the advantages which he anticipates from its adoption, appear by no means over-rated. Here, again, we cannot help remarking that spirit of benevolence, so conspicuous in all the works of Sir John Sinclair; in the questions with which he terminates this essay.—“ I shall conclude (he says) with asking, if any one can figure to himself a more delightful spectacle, than to see an industrious cottager, his busy wife, and healthy family, living in a comfortable house, rented by himself, cultivating their little territory with their own hands, and enjoying the profits arising from their own labour and industry? Or whether it is possible for a generous land-holder to employ his property with more satisfaction, or in a manner more likely to promote, not only his own, but the public interest, by endeavouring to increase the number of such cottagers, and encouraging, by every means in his power, the exertions of so meritorious and so important a part of the community?”

3. Hints as to the advantages of old pastures, and on the conversion of grass lands into tillage. From the facts collected by the author on this subject, he draws the following conclusion: “ That though on the whole, it may not be advisable to recommend the ploughing up of very rich, old pastures, or water meadows, or land apt to be overflowed; yet with these exceptions, there is every reason to believe, that other sorts of grass lands may be rendered much more productive, by being occasionally converted into tillage; and for that purpose, it is desirable that the conversion of such lands should be promoted as much as possible; by removing the obstacles to such conversion; by enforcing the necessity of commutating tithes, without which no considerable tract of old pasture can be broken up; by pointing out to landlords the conditions under which they may agree to such a plan, not only without detriment to the real value of their property, but also yielding a most important addition to their income; and above all, by explaining to Parliament, and the public, that the measure above recommended, is one which may effectually tend to remove future scarcities, and to render this country independent of foreign nations, in the important article of provision.”

4. Hints regarding cattle. In this essay, Sir John enquires into the particulars essential in forming a perfect breed of cattle; and the appendix annexed to it, in which he treats of the different kinds of cattle-farms, is replete with practical and useful information.

5. On the improvement of British wool; containing the substance of an address to a society constituted at Edinburgh, for that purpose, on Monday January 31, 1791. In this address, the author points out such means as appeared calculated to improve the breed of native sheep, and diminish the importation of foreign wool; a subject intimately connected with the internal prosperity of the country. The growth and labour of the wool of the united kingdom, are calculated to furnish employment to about a million and a half of people, and to amount in value to the sum of twenty millions sterling per annum.

In consequence of this address, a society was formed, which was dissolved, after persevering in the pursuit for which it was constituted,

and accomplishing the principal objects for which it was established: leaving such experiments as it had not leisure to finish, in the hands of persons likely to complete them. The following are the objects which the worthy Baronet informs us, were actually accomplished by this society:—

“It roused a great spirit for the improvement of sheep and wool; and introduced those sheep-shearing festivals, which are likely to be productive of so much public benefit. It improved so much, by premiums, the quality of the Shetland wool, and increased so much its price, as to add 3000*l.* per annum to the value of those remote islands. It ascertained, that a breed of sheep were to be found on the borders of England and Scotland, to which the society gave the name of the Cheviot breed; which was peculiarly calculated for a hilly or mountainous district, possessing great hardiness of constitution, and a very valuable fleece.

“This breed is now extending itself over the most northern parts of the island, and will render those remote districts infinitely more valuable to the proprietors and occupiers, and much more useful to the public than otherwise they could have been.

“Lastly, under the auspices of the British Wool Society, the Cheviot breed of sheep itself has been greatly improved; a subordinate society having been erected for that purpose, by several public-spirited farmers on the borders, by whose exertions that species of sheep, it is to be hoped, will not only be materially improved, but will soon be ranked amongst the most celebrated breeds in the island; more especially for possessing all those requisites by which a mountain breed ought to be distinguished.”

An appendix to this essay contains some excellent observations on the proper system to be pursued for the improvement of British wool; together with a description of the Cheviot breed of sheep, and an analysis of a Cheviot sheep-farm.

6. The Sixth essay, is an address presented on the 17th of Nov. 1795, to the Board of Agriculture, (of which, at that time, Sir John was President); on the cultivation and improvement of the waste lands of the kingdom. He here adduces many strong arguments, and convincing facts, to demonstrate the advantages that would be derived, both by individuals and the public, from the division and improvement of our wastes and commons: He contends, that the passing a general inclosing bill, is the first and most essential means of promoting the general improvement of the country; and, among other reasons, urges the adoption of such a measure, for one which, at the present moment, cannot be considered as unimportant.

“The improvement of wastes, not only adds to the wealth and population of a state, but also renders it more defensible. An inclosed country is perhaps the strongest of any: every hedge and ditch becomes a rampart, through which an enemy cannot easily penetrate, and which there is little difficulty in defending. Were this country completely inclosed, and no opportunity afforded of fighting any pitched battle (the only thing to be dreaded in the event of an invasion) we should have little reason to lament the landing of any body of men, however numerous and well disciplined. They might do some mischief on the coast, but could never penetrate into the interior

of an inclosed country. The best defence the capital can have, is not to suffer a spot of uninclosed ground to remain between it and the coasts in its neighbourhood."

7. Substance of a Speech in a Committee of the whole House, on the means of improving the system of private bills of inclosure, and the resolutions of the Select Committee on that subject. These resolutions were afterwards carried into effect, by an act which tended much to reduce the expence of private bills of inclosure.

8. Hints regarding certain measures calculated to improve an extensive Property more especially applicable to an Estate in the Northern Parts of Scotland.

From this paper it appears that Sir John is engaged in the practical demonstration of the possibility of the improvements he proposes, upon his extensive estate of above 100,000. acres in the county of Caithness. In this plan, the author, far from consulting only private advantage, far from confining himself to the improvement of his own possessions, displays the enlarged views of an enlightened statesman and a zealous benefactor to his country. This essay is accompanied with the plan of a new town which Sir John is actually building.

In the Appendix the author considers the means of promoting the fisheries of the North and likewise introduces some account of the encouragement given by Frederick the Great, king of Prussia, for promoting the internal improvement of his own dominions.

9. Account of the Origin of the Board of Agriculture, and its progress for three years after its establishment. This account is followed by several appendixes, containing the plan for the establishment of the Board, the objects of their labours, various addresses of the author while president, &c.

10. Proposals for establishing by subscription a new institution, to be called the Plough, or Joint Stock Farming and Experimental Society for ascertaining the Principles of Agricultural Improvement.

Of the nature and plan of the proposed institution, for which, after £30,000 had been subscribed, a charter of incorporation was refused by government, the author gives the following sketch;

*" 1. Proposed Capital.*

" 1600 Shares at £.50 each 80,000

" It also intended to admit half shares at £.25 each, but the persons holding them, though they will have a right to partake in the pecuniary advantages of the proposed institution, are not to be entitled to vote in the choice of directors. The number of shares which each person may hold, not to be restricted. The directors to be annually chosen in London, and to meet there. The books of the Society to be always open to the subscribers.

*" 2. Proposed Expenditure.*

" To the expence of establishing eight experimental arable and grazing farms in the neighbourhood of London, and in different parts of the kingdom, at £.4000 each on an average

32,000

" To ditto for two upland farms for improving mountain sheep at £.1,500

3,000

" To ditto for purchasing 5000 acres of land, inclosing and planting them with larch, fir, and other trees, and various expences attending the same

35,000

" To a contingent fund reserved for incidental and unforeseen expences	10,000
Total,	<u>£.80,000</u>

*" 3. Ultimate Return and other Advantages*

" Sale of stock, crop and implements on the experimental farms, at the conclusion of 21 or 30 years, or any other period that may be fixed on by the Society	35,000
" Value of 5000 acres of land, the buildings to be executed thereon, of 1,250,000 larch, fir, and other trees at the conclusion of 30 years,	218,000
" Principal of the contingent fund, on the supposition that the interest will defray all the expences of management,	10,000
Total,	<u>£.263,000</u>

" Which is above thrice the original capital."

" In addition to the ultimate return, the Subscribers will, in the interim, enjoy the following advantages, namely:

" The advantage of having an account of the proceedings of the Society annually transmitted to them.

" The privilege of visiting the experimental farms, either in their own neighbourhood or wherever they may be established by the Society.

" The right of nominating persons to be instructed at the different agricultural academies proposed to be erected at each experimental farm; and

" A division of the annual profit, that may arise from the experimental farms.

" It is also intended to keep up such a connection with the Board of Agriculture, and the various societies formed for agricultural purposes in the kingdom, as cannot fail to be attended with the most important advantages, both to the Society itself, and to the farming interest in general."

We cannot deny that such a plan appears likely to answer the purposes intended by its public-spirited projector, and we cannot but lament with him, that the encouragement of government was withheld. Nothing but Sir John's unabated zeal and unwearied exertions, on a former occasion, procured its sanction to the establishment of the Board of Agriculture, to whose labors the various branches of the Public Economy are so materially indebted. In case the plan of an Experimental Society should ever be revived with a better prospect of success, the author thought it advisable to preserve the papers regarding it in this collection.

11. Letter to the Proprietor of an Extensive Property on the means of promoting the comfort and improving the situation of the People in his Neighbourhood.

12. The twelfth and last Essay treats of Longevity, or the means of preserving health and attaining a great age.

Such are the contents of a Volume which cannot be too warmly recommended to the public attention; we doubt whether the hints and facts recorded in its pages will be found more worthy of the consideration of the statesman, the landed proprietor or the practical farmer.

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## HISTORY.

### National Transactions.

GREAT BRITAIN.

**T**HE reports of the projects of the French against this country have taken a new turn; and, if they be ill founded, they have at least the merit of variety, for certainly the public must have been disgusted with the eternal menace of invasion, which every day was to realize. It is now said, that from recent information, there is good reason to believe, that while Bonaparte engrosses the attention of the British Empire, with the threat of an attack on England, or at least on Ireland, he intends, the first opportunity, to send out the Brest fleet, or a strong division of it, laden with troops for the East Indies.

We may expect various reports of new schemes of the enemy, and it is obvious that any rational plan that could be devised to save the credit of the First Consul, without the necessity of a direct invasion of this country, would to him be highly acceptable. He had no idea, when he committed himself by making the rash threat, that the youth of this country, instead of requiring, like his conscripts, to be carried to the army in chains, would volunteer in such numbers, that the government would be obliged to restrain them. The intelligence must have deranged every calculation he had previously made, and shewn him the necessity of making some new arrangements; and, though it may be the sum of his ambition, at the present moment, to effect an invasion, it is more than probable he aims at attacking us in some other way, that his troops may not remain idle.

The rumours of a war with Spain and Portugal, have lately been renewed. The intelligence, on which they are grounded, is, however, very contradictory, agreeing only in one point, namely, that these two weak, enlaved countries continue to be the prey of consular rapacity, a pretty useful lesson to other countries threatened with the same yoke. We cannot consider it at all likely that Bonaparte will drag Spain and Portugal into a war, where they can be of comparatively little service to him, while he can extort from them money, of which he stands so much in need, as the purchase of their peace.

**FRANCE.**—On the 30th of December, the First Consul again left Paris on another inspection of his preparations for invading this country. His absence however was not of long continuance, for on the 6th of January he again arrived in the Metropolis. What will be his next adventure, is perhaps a mystery even to himself. His repeated journeys to the coast, and his frequent boastings that the grand attempt was now at length to be made, clearly demonstrates the uncertainty in which he has for some time been involved. He has for some time been slowly advancing in the conviction that he has entered upon an attempt far beyond his power to accomplish. Perhaps he may now hope, that the many false alarms which he has lately caused to this country, may at last seduce us to look upon the whole as a mere delusion,

*Ag. Mag. Vol. 10.*

I



and that our countrymen will in the end, be taken unawares, when the *wolf* does actually invade our fold. In this expectation he will assuredly be disappointed; as our means of defence, and our activity to anticipate all hostile attempts, daily encrease in a proportion far beyond his preparations. Flushing is now stated to be the grand rendezvous of the invading force. There are there assembled a very great number of large Dutch merchantmen, fitted up as transports; there and at Rotterdam together, nearly two hundred sail, each capable of containing from three to five hundred men. There are at Rotterdam and Flushing two 74 and two 60 gun ships, for the purpose of escorting this flotilla; and though a week ago there were not troops sufficient upon that part of the coast to fill these vessels, there can be no doubt but enough could in two or three days be drawn together for that purpose. In a word, if we are to believe the accounts from the Continent the expedition is on the point of taking place. The Italian troops destined to aid in the expedition, as well as French troops of every description, are marching to the coast. Among others, it is said, that the army assembled at Bayonne, under Augereau, is on its march to Boulogne. If this be true, it seems probable that an arrangement has been made with Portugal, and that all projects of attack on that country, and for overawing Spain into the war, are for the present abandoned.

The naval preparations are also mentioned as very considerable. At Dunkirk several sloops and gun-boats have been lately launched; and flat-bottomed boats are continually arriving there from Bruges and St. Omer's. The armament at Flushing is daily reinforced by gun vessels from Amsterdam and Rotterdam; while we learn that the flotilla at Boulogne consists at present of 350 vessels, and will shortly amount to 600.

Positive orders have been received by the French Admiral at Ferrol, from the French Government, to effect a junction with the Corunna squadron, at all risks: but the active vigilance of Sir. Edward Pellew, and his squadron, notwithstanding the heavy gales of wind which have blown him several times off his station, has effectually prevented the intended junction of the two squadrons.

A frequent interchange of couriers, it is said, takes place between Vienna and Paris, supposed to be on the subject of the Bavarian disputes, which were on the eve of adjustment; but the Elector of Bavaria, it is stated, had committed a new aggression, by taking possession of some new district, to which he lays claim as part of the late plunder in the plan of indemnities. If this be the case, it is clear that he must be instigated by France, for the purpose of stirring up a quarrel between Russia and Austria.

**RUSSIA.**—A Russian army of 200,000 men is actually collecting, the greater part of which is in Livonia and Volhynia. His Imperial Majesty, it is reported, has sent Baron Giersen to Hanover, fully authorized, according to report, to give further assurances to the States, of his earnest solicitude to obtain the complete evacuation of the Electorate.

**TURKEY.**—The accounts from the Turkish empire are of the most serious nature. The Sultan has been attacked in his capital by two rebel Pachas, who penetrated into the very streets of Constantinople, carrying terror and destruction wherever they came. The rebels indeed at length retired, altho' it is suspected that they were induced to do so, more by some disgraceful compromise on the part of the Grand Seignior, than by the force or dread of his Janissaries.

The Turkish commanders in Alexandria have at length agreed to capitulate to the Beys, on condition that the same government shall be restored in Egypt, as existed previous to the French invasion. The Beys have agreed to these terms, provided they shall be ratified by the Turkish government.

**ITALY.**—It is at length settled, that the duchies of Parma, Piacentia, and Guastalla, are to be united to France, with the exception of a small district, which is to be allotted to the Italian Republic. These countries

are to be organised, like Piedmont, into departments, and orders have already been given on the occasion.

**EAST INDIES.**—The report of the capture of the French Squadron, sent out to the East Indies under Admiral Lincol, proves to have been premature. The Squadron, it appears, actually reached Pondicherry, and lay for a considerable time in the roads; but the British having refused to give up the place, the admiral returned to the Mauritius, where he arrived on the 10th of September, and landed the troops which he had carried out, to the number of two thousand men. The vessels under his command consisted of two sail of the line and five frigates.

## Agriculture.

### Essex Agricultural Society.

**A**T a Meeting of the General Committee of the Society, held at the Shire-House, in Chelmsford, on the 11th of January, 1804.  
MONTAGUE BURGOYNE, Esq. in the Chair;

IT WAS RESOLVED;

That Premiums for the exhibition of stock, in the present year, be allowed as follows, viz.

To the person who shall exhibit to the General Committee of this Society, at a Meeting to be held at Chelmsford, on Friday, the 25th of May next, the best cart stallion, his own property, and which he shall engage to cover the ensuing season within the county, the Silver Medal.

The best bull, being two years old or more, his own property, and which he shall engage to use during the season within the county, the Silver Medal.

The best cow or heifer, (then giving milk,) his own property, which shall be kept by him for the purpose of breeding within the county, the Silver Medal.

The best ram, growing a fleece coming under the denomination of long, or combing wool, his own property, which during the ensuing season he shall engage to use, or cause to be used, within the county, the Silver Medal.

The best pen of three long-wool ewe hoggits, bred by him within the county, and his own property, the Silver Medal.

The best ram, growing a fleece, coming under the denomination of fine, or clothing wool, his own property, which during the ensuing season he shall engage to use, or cause to be used, within the county, the Silver Medal.

The best pen of three short-wool ewe hoggits, bred by him within the county, and his own property, the Silver Medal.

The best two year old wether, bred and fed by him within the county, having had neither corn or oil cake, the Silver Medal.

The best boar, being not less than twelve months old, his own property, and which shall be used the ensuing year within the county, the Silver Medal.

The rams and ewe hoggits to be shown in their wool; the fat wethers to be shorn.

No person to be intitled to any of the above premiums for stock, to which at any former period a premium shall have been adjudged; nor any person who shall not have been resident in the county at least twelve calendar months preceding the day of exhibition. Separate judges to be appointed for each sort of long and short wool sheep, or as the majority of the candidates may approve.

No claim will be allowed, unless an account, in writing, of the stock to be produced, shall have been delivered to the secretary, at least seven days previous to the day of exhibition.

## ALSO RESOLVED,

That John Jeffery Salter, and Robert Mitchel Robinson, Esqrs. be requested to accept the office of Stewards, to see the field properly arranged.  
N. B. Pens will be provided for the sheep.

JOHN GOULDING, Secretary.

Chelmsford, Jan. 11, 1804.

*Drayton Agricultural Society.*

At a Meeting held at the Talbot, in Drayton, on Thursday, 24th of November, 1803, the Secretary's accounts were examined and allowed; and the following Premiums directed to be paid.

	£.	s.	d.
To John Evison, servant to Mr. Smith, Shawbury Park, for ploughing the greatest number of acres (10A.) with four oxen and without a driver	1	1	0
Mr. Harding, of Old Springs, for the best summer fallow	3	3	0
Mr. Clarke, of Peplow, for the best 12 Acre of turnips	5	5	0
Mr. Britcoe, of Caynton, 8A. ditto	3	3	0
Rev. Offley Crewe, Muxon, 4A. ditto	2	2	0
Ditto 5A. Swedish ditto	3	3	0
Sir Corbet Corbet, 3A. ditto	2	2	0
The Workmen of Mr. Dicken, Peatwood, for hoeing Turnips	2	2	0
Sir Corbet Corbet, best Dairy of Cheese, the Silver Cup.			
<i>To Servants in Husbandry, for long and faithful Service.</i>			

	£.	s.	d.
Edward Stevenson, 26 years, with Mr. Grinsel	2	2	0
Thomas Thuffield, 22 years, with Mr. Bates	1	1	0

*To Day Labourers in Husbandry.*

James Key, 45 years with Sir Robert Cotton	3	3	0
Edward Jones, 46 years with Sir Richard Hill	2	2	0
William Harrison, of Drayton, for having reared a family of 13 children without Parochial assistance	9	5	0
N. B. The Sweepstakes for the best four acres of turnips (12 subscribers) was decided in favour of the Rev. Offley Crewe.			

Sir CORBET CORBET, Bart. President.

JOHN HILL, Esq.

And the

Rev. WILLIAM JUDGSON,

} Vice Presidents.

*The following Premiums are offered for the ensuing Year.*

To the person who shall produce at the next meeting on the second Thursday in May, the best bull for stock, under three years old, bona fide his own breeding and property, Gold Medal

To the second best ditto, ditto, Silver Medal.

Notice to be delivered to the Secretary before 1st of May, with Certificate of the sort.

To the two men who shall at the May Meeting shear two sheep each in the best manner, to the first

To the second

Names of the Candidates to be given in to the Secretary before 1st of May, and must be persons at liberty to be employed by any of the Members.

*The following Stock to be shewn at the July Meeting.*

To the person who shall produce at the Meeting to be held on the last Thursday in July, the best two-year old heifer, his own breeding and property. — Gold medal.

To the second best ditto, ditto, Silver Medal.

To the best three-years-old, ditto, ditto, being in milk, Gold Medal.

To the second best ditto, ditto, ditto, Silver medal.

To the best new Leicester ram, to be kept for stock, not more than two years old the preceding Spring, Gold Medal.

To the second best ditto, Silver Medal.

To the best grey-faced ditto, ditto, Gold Medal.

To the second best ditto, ditto, Silver Medal.

To the best pen of four N. L. yearling Ewes, own breeding and property, Gold Medal.

To ditto of four grey-faced yearling ditto, ditto, Gold Medal.

To the best boar pig under 18 months old. Gold Medal.

To the best sow, under 12 months, Gold Medal.

Notice in writing to be given before the 20th of July, with Certificates of age, number, and sort of stock intended to be shewn at the July Meeting.

To the person who shall produce at the November meeting the best fat new Leicester wether, two years old the preceding Spring, his own breeding and property, Gold Medal.

To the best grey-faced ditto, Gold Medal.

The comparative merit to be ascertained by the live and dead weight, with the least proportion of offal.

To the farmer who in proportion to the extent and quality of his farm and number of cows (not less than 10) shall make the largest and best dairy of cheese in the year 1804, Silver Cup.

Claims to be given in before 1st of October.

To the Farmer who in the years 1803 and 1804 shall have made the greatest and most improvements by marling, draining or otherwise, according to the nature, quality and extent of the Lands occupied, Silver Cup.

Claims to be given in before 1st of October, that the persons appointed to inspect the improvements may have time to make themselves acquainted with the original state of the land.

To the servant or labourer in husbandry who, under the direction of his master, in the Year 1804, and before the 20th of October, shall plough the greatest number of acres (not less than 10.) with any plough drawn by four oxen without a driver I I O

To ditto for ploughing same with two horses, under like terms I I O

Claims for ploughing, with certificates signed by two members, to be given in before the 1st of November.

To the farmer who shall make and prepare the best Summer fallow for wheat, (not less than five acres) according to the quality of land and the average of the whole of his fallows, 3l. 3s.

Notice of claim before the 1st of July.

To the person who shall sow with the drill the greatest number of acres (not less than five acres) with Lent corn, and hoe the same and produce the cleanest and best crop at harvest, 2l. 2s.

Notice to be given before the 1st July.

To the best and cleanest crop of turnips, according to the nature and quality of the soil, and the fair average of his whole growth of turnips not less than five acres, and to include all kinds, The large Gold Medal.

To the second best ditto, under the same conditions, Gold Medal.

Claims for turnips before the 1st of October.

To the workmen who shall have hoed in the best and most regular manner any crop of turnips belonging to a Candidate for the above premiums whose servants or laborers they must be.

Claims for hoeing young turnips before the 1st of October, with certificates from the masters.

To the man-servant in husbandry who shall have continued the greatest number of years in the same service, or on the same farm,

To the second ditto,	1	1	0
To the woman-servant in husbandry in the like manner	2	2	0
To the second ditto,	1	1	0

To the daylabourer in husbandry who shall have brought up the greatest number of legitimate children in habits of industry, without relief from the parish, except in illness 5 5 0

Claims for servants and labourers, with proper certificates, to be delivered to the Secretary on or before the 1st of November. Not less than six children or 14 years service will be deemed a sufficient pretension.

No stock will be permitted to be shewn, unless sufficiently secured; proper notices and certificates having also been sent in. Cattle and sheep to have been fed with hay, grafs and vegetables, and not to have had corn. And it is to be fully understood, that in future the Society intend strictly to adhere to the general rule in all cases, and to withhold the premium where no real merit appears.

*The following Members are on the Committee for the Year ensuing.*

Sir John Chetwood, Bar.

William Clive, Esq.

George Tollet, Esq.

Mr. John Briscoe,

Mr. S. Bradbury,

Mr. John Taylor, and

Mr. Edward Bartlam.

The Meetings are appointed to be held on the Second Thursday in May, the last Thursday in July, and the Thursday before the full Moon in November.

The following Subscriptions of One Guinea are entered, and to remain open till after the May Meeting. The best carrots and parsnips, one acre each—Sir Corbet Corbet, Rev. Offley Crewe.

The best four acres of turnips, the Rev. Offley Crewe, P. Davies, William Briscoe, Thomas Clarke, William Jellicoe, John Hill, Thomas Taylor, John Briscoe, Samuel Bradbury.

To the best four acres of Swedish turnips, P. Davies, Sir Corbet Corbet, Rev. Offley Crewe, Thomas Dicken.

Subscription of Five Guineas each.

For the best half acre of carrots. Rev. William Judgson, Sir Corbet, Rev. Offley Crewe.

By Order of the Society,

THOMAS DICKEN, Secretary

### *Highland Agricultural Society of Scotland.*

The Anniversary General Meeting of this Society, agreeable to the charter, was held in their Hall, South Bridge Street, on Tuesday 10th January, when there were present, the Marquis of Lorne, the Earls of Morton, Murray, Haddington, Aboyne, Moira, and Mansfield; Lord Viscount Duncan, Lords Montgomery and Renclyffe, Lord Provost of Edinburgh, Hon. Mr. Dundas, of Melville, Hon. Archibald McDonald, Sir William Forbes of Pittligo, Sir Hew Dalrymple Hamilton of Bargeny, Sir John Sinclair of Ulbster, with several other Baronets; Lieut. General Vyse, and other military men of rank in the army, Gentlemen of eminence in the law, and many others of the most respectable consideration, as landed proprietors, and commercial interests in the country, upwards of an hundred in number. After balloting for new Members the Meeting proceeded to take into consideration the business which had been before their Committee of Directors since the general meeting in June last, and approved of their continued attention to the objects of the institution, as appeared from a number of premiums adjudged to authors of essays of merit, on subjects connected with the improvement of agriculture and the fisheries, whereby much useful information had been obtained.

The Society also approved of the premiums voted, for improvement of waste lands, raising green crops, meliorating the black cattle, curing the diseases incident to sheep, and the emulation lately excited among ploughmen, by

the premiums bestowed at the sight and approbation of the Committees of Members of the Society, in different parts of the country.

On hearing the Secretary upon the funds of the Society which had considerably increased since last year, the Meeting voted a larger sum than usual, to be laid out by their Committee of Directors in premiums towards the encouragement of useful objects, for the present year, over all the country; and the Meeting was pleased to find, from the number of respectable names daily coming forward in support of this institution, that notwithstanding their expenditure, the fund, which has been accumulating progressively, must be soon considerably increased; by the countenance and support of the public.

On hearing Mr. Campbell, of Carbroke, in his place, and a report from the Committee of Directors, and of the proceedings of that Committee in regard to the application and reference made to this Society, composed of a great body of the landed interest of the country, by many of the counties of Scotland for an investigation and inquiry into the comparative quality of English and Scots barley, and of bigg compared with barley, for the purpose of being made into malt, the Society, on motion by Henry Mackenzie, Esq. approved of the proceedings of the Directors, and remitted to them to take such measures as shall appear proper and expedient for obtaining such information as may be useful to the Committee of Parliament expected to be appointed for prosecuting the investigation as a matter of the highest importance to the country at large.

The Meeting afterwards, upon hearing several of the Members, resolved unanimously, upon motion, that the thanks of this Society be voted to the Lord Provost, now present in his place, and to the Magistrates and Town Council of the city of Edinburgh, for having recommended to his Majesty Robert Jamieson, Esq. author of a valuable work, intitled the "Mineralogy of the Scottish Isles," to the vacant chair, as Professor of Natural History in the University of Edinburgh. That Mr. Jamieson having received the most ample testimonies of his talents, particularly in the important Science of Mineralogy, from Mr. Warner in Germany, from Sir Joseph Banks, and Mr. Hatchett, in London, and from Mr. Kirwan in Dublin, all celebrated Mineralogists; and having sometime ago agreed to undertake a general Mineralogical survey of Scotland, including the nature of its soils, under the direction of this Society, which the appointment in question would enable him by degrees to execute, during the vacations of his class, this Society considered themselves particularly interested in a recommendation of so much importance, not only to the University, but to the general improvement of the country.

Having heard Sir John Sinclair, Bart. and a memorial presented by him on the general utility of opening a speedy communication by a diligence or mail coach from Perth by the Highland road to Inverness, and of course to the northern counties of Ross, Sutherland, and Caithness, which was suggested might be obtained upon application to the Postmaster-General; Sir John moved, that it should be remitted to the Committee of Directors to take such measures as might appear to them most proper for obtaining this desirable object; and the same was agreed to accordingly.

The Secretary reported, that the second volume of the Society's Transactions had been published since the last Anniversary Meeting, and was received with much approbation, as containing important information and experiments on a variety of subjects connected with the views of the institution, and therefore well merited the attention of the Public, as well as the members of this Society.

It was also mentioned by the Secretary, that reports had been made by some of the members, as to the success of the Egyptian barley and Ruta Baga, formerly stated to have been presented to the Society by Benjamin Bell, and distributed in very small parcels for experiments, and particularly

a very distinct and accurate report from Lord Balmuto, by which it appears that the Egyptian barley, when properly attended to in the cultivation, may prove a valuable acquisition.

Thereafter, the Meeting proceeded to the election of President, Vice Presidents, and other Officers of the Society, for the current year, when

His Grace the DUKE of ARGYLE, was re-elected President,  
*Navan Farming Society.*

The anniversary of this laudable institution was held on Thursday, the 5th of January, at which the different successful claimants for premiums received the rewards of merit and industry, principally in medals, with mottoes, expressive of the grand purposes of the society's formation, which were executed with emblematical devices in elegant simplicity.

The premiums for extensive green crops were bestowed on John M. Grainger, and Brabazon Morris, Esq.

Resolved, That as the meliorating the condition of the Poor and consulting their Comforts, is one of the main objects of this Society, and as in this vicinage they suffer in no instance so much as in the want of fuel;— That a Premium of a Silver Medal be given to the person who shall send in to the Secretary, on or before the next Quarterly Meeting, to be held on the 5th of April next, the best Plan for providing Fuel for the Poor. The premium to be adjudged by the Society on the above quarterly day.

Each plan to be accompanied with a sealed letter containing the Author's name and Address, with a word or motto on the superscription, corresponding with a like word or motto annexed to the plan; which letter will not be opened except the plan is approved of.

By order of the Society,

CHR. MURPHY, Secretary.

The amateurs in breeding cattle, were highly gratified by an exhibition of heifers, of the home breed, at the King's-Arms Inn, at Cross, Somersetshire, on the 30th of December, by Mr. Fry, of Axbridge, and Mr. Board, of Lympham, (two of Captain Baker's troop of Volunteer Cavalry), to decide a bet of a dinner for the whole troop, which should produce the best heifer of the home breed. The umpires decided in favour of Mr. Board.

The troop dined at Cross, and the day was spent in the most convivial manner, in the true old English style.

CORN-MEASURE.—A very large assembly of farmers met at Driffield on the 22d of December. Shortly after dinner, the Chairman, Major Topham, rose and stated to the company "the reasons why he had presumed to call them together; the great losses which the East Riding had sustained by using a larger measure than other parts of the kingdom, which amounted to a sacrifice of the ninth part of their property; that the selling by any other measure than the Winchester Bushel, subjected the seller to a forfeiture of his grain, and a very large penalty, which might be levied on the information of any servant, and which no Magistrate could refuse to adjudge; while no debt for grain, sold by any other measure, could be recovered by law."

The company unanimously adopted the following Resolution, moved by Digby Legard, Esq. and seconded by John Grimston, Esq. of Neswick:

"That we will not, after the 10th of January instant, sell any Grain whatever by any other Measure than the Standard Winchester Bushel of Eight Gallons, and that we will not sell any Grain by Weight as not being called on by Law to do so.

Sir Mark Sykes being detained from the meeting, sent his Steward to give his sanction to a plan so essential to the interests of his numerous tenantry, and Sir Francis Boyton did the same. Harrington Hudson, Esq. of Bessingby, exerted himself much afterwards amongst his tenants. The thanks of the Meeting were voted to the Chairman for the unremitting pains he had taken on the occasion.

A Gentleman of Wexford has, by public advertisement, offered the following Premiums to the Farmers of the Baronies of Forth and Bargo in that county.

Great loss having been sustained from the difficulty and expence of weeding corn sown broad-cast, especially Beans and Wheat, where the ground lies hardening for many months; and great loss having been sustained from the want of Winter and Spring Feed.—Now in order to encourage the growing of Winter and Spring Feed, and to encourage the sowing of Corn in drill (in grounds subject to weeds) and horse-hoeing the same, I do hereby offer the following Premiums:

For the best acre of Beans, sown in drill, and horse-hoed a piece of Plate of the value of	£.	s.	d.
	10	0	0
For the best acre of wheat, oats or barley sown in drill and horse-hoed, a piece of Plate of the value of	10	0	0
For the best acre of rape after flax or early potatoes,	5	0	0
For the best acre of turnips after flax or early potatoes	5	0	0
For the best acre of rye sown on a stubble in the Autumn of 1804	5	0	0
For the best acre of winter vetches sown on a stubble	5	0	0

The premium for the drill crops to be adjudged in the week before the harvest of 1804, and the premium for winter and spring feed in the December following.

N. B A drill plough, sowing Barrow, and horse-hoe may be seen at Bargo, intended for the use of the candidates for the drill premium at seed time, who are requested to send in their names immediately.

Bargo Castle, Dec. 23, 1803.

JAS. HARVEY.

A few days ago, a bullock was slaughtered at Alford, and was found to be of the extraordinary weight of 1940lb. the whole of which was sold at the rate of 10d. per lb. The weight of the loose fat was 280lb. hide 277lb. The rump and loin were played for at whist by a party of gentlemen, and presented by the winners to the Alford Volunteers.

In the year 1803 Mr. William May, a considerable farmer near Wokingham, planted some pease, which were housed in due time (rather early). As is often the case, many of the pease were scattered and took root; the land not being immediately put into cultivation, they flourished and produced some sacks of fine green pease for the table. The last gathered was November 3d, on which day he sent several pecks as presents to his friends.

In consequence of a challenge by Mr. Burns, of Bouth, butcher, "that he would produce, at Christmas eve, a sheep, thicker by two inches at rib, than any other person in Furness or Furness Fells could," much curiosity was excited amongst the butchers and others in the said district, and no little exertion used to meet such an extraordinary challenge. On the 22d ult. at Ulverton (where the oldest person living never remembered such a shew of mutton) this wonderful animal was produced, and for a considerable time excited the amazement of every spectator; all unanimously concluding, that such a sheep was never before seen there, and that it could scarcely be equalled in the kingdom; when, to the astonishment of the whole town, a small fore-quarter of mutton, sent to market by the Rev. Mr. Ellerton, of Colton, was produced, which, in beauty, weight, and thickness, very considerably exceeded that of Mr. Burns. Mr. Ellerton's quarter was from the small improved Leicestershire breed; and though out as fair as possible at rib, and without skewer, measured four inches and a quarter, weighing thirty four pounds and a half.

The fattest and largest wether sheep exhibited in the shew-yard at Smithfield, on the 16th of December, was bred and fed by Mr. Earl, of Dallington, near Northampton, and was by a tup of Mr. Freeman's of Hitcham Gloucestershire. This sheep was fed on grass, hay, and turnips only, and was allowed, by good judges, to weigh upwards of 55lb. per quarter.

Ag. Mag. Vol. 10.

K



At Hunsley, in the parish of Rowley, a few miles from Beverly in Yorkshire, there is a field of turnips this season, which for product, both in size and quantity, it is supposed, has never been equalled in this or any other country. Great numbers of the plants have been matured to the weight of two stone and upwards each turnip; and one in particular (not inferior in girth to the dimensions of a bushel skep) actually weighed three stone ten ounces. This plot of ground was recently, and for a great number of years, used as a coney warren.

A Bambourghshire ewe, (Northumberland) bred by Mr. Caleb Ostfeld, of Marlborough, in the parish of Holm Cultram, in Cumberland, (and still in his possession) yeaned a lamb on the 1st of January, 1802; another on the 25th of December, in the same year; and a third, on the 1st day of the present year: three yearnings within two years.

An ewe of the Leicestershire breed, belonging to William Butler, of Leece, in Low Furness, yeaned a lamb on the 26th ult. which was sold at Ulverston, for 25s.

### *Agricultural Society for the County of Durham.*

At a meeting of the Society, held at Durham, on the 27th day of December, 1803, it was resolved to offer the following rewards for the ensuing year.

1. To the farmer whose farm, not less than 150 acres, shall be deemed to be in the most skilful mode of cultivation, and the best condition £. s. d.  
5 5 0

2. For the greatest quantity and the best quality of rye-grass seed produced from two acres of ground 5 5 0

N. B. The candidates for either of the above rewards are desired to send in their claims to the secretary on or before the first day of July next, and their several farms, grounds, and crops will, in due time, be reviewed by a committee of the society appointed for that purpose, and who will take into consideration the nature of the soil, and the situation of the ground of each candidate, and form their estimates accordingly. The candidates for No. 2. must also transmit to the secretary a certificate from two respectable persons in the neighbourhood, certifying the quantity of ground and of the seed grown thereon, and the rewards will be adjudged and paid at the meeting of the society, to be holden at Durham, in December next.

3. To the cottager usually employed in husbandry by whom the greatest number of legitimate children, (not less than six) have been maintained, educated, and placed in service, without the assistance of the parish £. s. d.  
4 4 0

4. To the cottager employed in the like manner, who shall have maintained, educated, and placed in service, the next greatest number of children under the same restrictions 2 2 0

The case of each claimant to be certified by the minister and major part of the church-wardens and overseers of the poor of the parish and place where such cottager resides, and delivered to the secretary, on or before the first day of July next; and the society earnestly request that no minister or parish officer will grant any such certificate unless the facts contained in it, are within their own personal knowledge, or ascertained to them by parochial records, or other indubitable testimony.

The rewards will be adjudged and paid at the meeting of the society, to be holden in September next, at Darlington.

5. For the best stallion, for getting harness or draught horses, to be kept in the county of Durham as a stallion, at one guinea a mare, for one season afterwards, and to attend Durham market in the usual manner £. s. d.  
3 3 0

6. For the best stallion for getting hunters or road horses with the same injunction mentioned in No. 5 3 3 0

7. For the best bull not less than two years old to be kept in the county of Durham one year afterwards £. s. d.  
5 5 0

The horses and bulls must be shewn at Darlington on Easter Monday next, when the several rewards will be adjudged and paid, and the successful candidates must give such security to the society, at the meeting holden upon that day, for the performance of their different conditions as they may deem satisfactory.

8. For the tup wether aged or shearling, to be kept in the county of Durham for one year afterwards £. s. d.  
5 5 0

9. For the best cow or heifer, in milk or with calf, bred in Darlington or Stockton Wards, to be kept in the county of Durham for two years afterwards, as a breeding cow 5 5 0

The tups, cows, and heifers must be shewn at the meeting of the society at Darlington, in September next, when the rewards will be adjudged and paid; the successful candidates giving satisfactory security for the performance of conditions

10. For the best cow or heifer, in milk or with calf, bred in Chester or Easington Wards, to be kept in the county of Durham for two years afterwards as a breeding cow 5 5 0

These cows or heifers must be shewn at the meeting of the society at Durham, in December next, when the rewards will be adjudged and paid; security being given by the successful candidate.

11. For the best pen of five fat wether sheep, under two years old, bred and fed by the respective candidates in the county of Durham, and bona fide their property at the time of shewing, and which have not been fed by any other than green food £. s. d.  
10 10 0

Certificates respecting the feed of the sheep will be required at the time of shewing.

12. For the best fat ox bred and fed in the county of Durham, certified to be under four years old at the time of shewing 10 10 0

The candidates for the two last mentioned rewards must shew their sheep and oxen at the meeting of the society to be holden at Mr. Hault's, of Durham, on Friday the 21st day of December next, at ten o'clock in the forenoon. And as no perfect judgment can be formed of the real merits of those animals by merely examining them when alive, they must be slaughtered upon the day they are shewn, and their carcases examined by the society the day following, when the rewards will be adjudged and paid.

The oxen requiring a greater length of time between their being slaughtered, and the carcases made fit for examination, must be shewn first.

13. For the best fat pig, not exceeding eighteen months old, to be bred and fed in the county of Durham, and shewn and slaughtered on the 21st day of December next. £. s. d.  
5 5 0

The society trust that no person will presume to shew any stallion, bull, tup, cow, or heifer, unless they are in every respect such as the public will be benefited in breeding from.

The improvement of the different breeds is the grand object of the society, and they beg it to be understood that they will deem themselves justified in withholding the rewards which they have offered where any horse, &c. although the best of their class shall not in their judgment possess a sufficient degree of excellence to promote the desired end.

Resolved unanimously, that none of the members of this society will, in future, hire any servant who does not produce a certificate of good behavior from his last place of service.

JOHN DOUTHWAITE NESHAM, Esq. President.

Mr. JAMES JACKSON,

Mr. JOHN WETHERELL

} Vice Presidents.

About twenty years since a farm of about 40 acres belonging to Mr. Randal, an opulent butcher, of Hammer-smith, fell into his hands at Had-

den, near Hounslow It being out of condition and much impoverished by the tenant who had quitted, Mr. Randal consulted a friend on the best method of getting it into order, or in the farmer's phrase, into heart again. The farmer advised him to give a dinner at Crauford-bridge, to all the neighbouring farmers, and their servants. He did so, and on the day on which the feast took place, he had the satisfaction of knowing that 396 loads of dung had been deposited on his land; all brought that morning.

Lord Romney has found that parships are a valuable food for cows.— They are very fond of them, and yield more milk than when fed with oil-cake, or any other food.

A new threshing mill has been built in the Isle of Ely, by Messrs. Edes and Nicholls, which with the aid of two women, three boys and two men will thresh twenty quarters of wheat, or thirty of oats, in a day; and it does its work much cleaner than it can be done by manual labour.

Mr. Leeds, of Somersham, in Huntingdonshire, has very successfully cultivated hemp on a black peaty soil, which was much overrun with nettles and other rubbish. This mode of culture not only yielded fifty stone of hemp per acre, but cleaned the land completely.

Mr. Thompson, of Waverley Abbey, in Surrey, has used graves from the London tallow-chandlers with great success as manure on a sandy soil.— They were tried on two fields with equal effect. No common dressing of the richest dung could have exceeded that at the rate of 10 cwt. per acre.

At Ayr fair there was a large quantity of flannels and blanketing, but the sale for both was very dull. A part of it was not sold, the owners preferring to keep it rather than accept the prices offered. On the second day there was a greater number of horses than has been at any fair for several years; a considerable part of them were Irish horses. Many of the best brought high prices, but evidently not so much as the sellers expected. Inferior ones sold poorly, and a great many were not sold.

The Christmas horse shew was well attended by buyers. A great number of horses were brought for sale; good ones, however, were very scarce, and brought high prices.

The following method of applying the refuse of potatoes to the feeding of calves has lately been recommended. Take two gallons of small potatoes, wash them clean, put them into a pot of boiling water sufficient to cover them, and let them boil till the whole becomes a pulp; then add more water, and run the whole through a hair sieve, which will produce a strong nutritive gruel. At first use a small quantity, warmed up with milk, to make it palatable to the calf, and increase the quantity daily till it becomes equal. A quart of potatoe gruel and a quart of scalded or skimmed milk will be sufficient for a good meal, which should be given warm three times a day.

In the north of England, hay tea has likewise been tried with success for the rearing of calves. In order to prepare it, take a large handful, or about a pound of red clover hay, well got in, and six quarts of clear spring water; boil the hay amongst the water until it is reduced to four quarts; then take out the hay, and mix one pound of cut barley, or bean meal, among a little water; put it into the pot while it is boiling: keep the whole constantly stirred until it is boiled and thickened. Let it cool to be luke-warm, then give it to the calf, adding as much whey as will make a sufficient meal. This is a cheap mode of rearing calves; and may answer the purpose as well as more costly ingredients. In this way, the valuable article of milk may be saved for other purposes.

It has been discovered, that pasturing sheep on ground abounding with broom, for several days when the broom is in blossom, prevents the sheep from being infected with the rot during that season.

LONDON PRICES OF GRAIN for *January, 1804.*MARK-LANE, *Monday, 5 January 2.**Price of Grain, on board Ship, as under.*

OUR arrivals of Grain to-day have been (as expected) very considerable. The Wheat trade still experiences a depression, and the sales may be noted at from 1s. to 2s. per quarter cheaper than last Monday. Barley is alike plentiful, but nearly maintains last week's prices. Malt is a trifle lower. Some Foreign Oats are come in, and the supply good, but with scarce any variation in price.—White and Grey Pease, and both sorts of Beans, are cheaper.

Wheat	40s to 54s	Malt	52s to 57s od	Grey Peas	36s to 40s od
Fine	56s to 57s 6d	Oats	18s to 23s	Small Beans	33s to 38s od
Rye	28s to 31s od	Polands ditto	24s to 25s od	Ticks	30s to 34s od
Barley	20s to 25s od	White Peas	40s to 46s od		

*Monday, January 9.*

The late influx of all Grain has been followed by additional supplies for this day's market, and which, with the unfold of last week, has rendered the sales extremely heavy. Wheat scarcely obtains last Monday's prices. The same may be observed of Barley and Malt. Oats, of which we have plenty, are likewise very flat. Tick Beans fell readily at former prices, but the other sorts, with White Grey, and Pearl Peas, are cheaper; the latter to be noted at 45s. per quarter. Fine Flour scarcely fetches 50s. per sack.

Wheat	35s to 53s	Malt	50s to 57s od	Pearls	45s od
Fine	54s to 55s od	Oats	18s to 23s	Grey Peas	30s to 38s od
Rye	28s to 31s od	Polands	24s to 25s od	Small Beans	33s to 37s od
Barley	19s to 24s 6d	White Peas	35s to 42s	Ticks,	30s to 35s od

*Monday, January 16.*

Our Supply of Wheat, to-day, was not great, neither were the samples generally of the best quality. This, with the excess of last Monday's market, has not improved the prices of that article.—Barley is likewise rather a short supply, as are also Oats: these both remain at last stated prices.—White Peas are in great plenty.—Grey, with both sorts of Beans, keep nearly to the standard of this day week.

Wheat	36s to 54s	Malt	51s to 57s od	Pearls	44s od
Fine	55s to 56s od	Oats	19s to 23s	Grey Peas	33s to 36s od
Rye	28s to 31s od	Polands ditto	24s to 25s od	Sm. Beans,	33s to 38s od
Barley	20s to 25s od	White Peas	37s to 42s od	Ticks,	32s to 35s od

*Monday, January 23.*

Our market has not been furnished with any supply of Wheat to-day; and the runs being generally coarse, caused fine samples to be sought after with much avidity, which fully maintained last Monday's prices: the ordinary sold heavily and hardly obtained last currency. We find little fluctuation in Barley and Malt, hence the prices remain nearly as last week. White Peas and New Tick Beans have rather declined; but good old Horse Beans keep their prices. We have some foreign Oats in; fine samples sold for rather more money than last Monday. Flour 45s. to 48s. and in plenty.

Wheat	35s to 54s	Malt	51s to 57s od	White Peas	36s to 43s od
Fine	55s to 56s od	Oats	20s to 24s	Grey Peas	30s to 35s od
Rye	29s to 31s	Polands	25s to 26s od	Sm. Beans,	30s to 35s od
Barley	20s to 24s 6d			Ticks	26s to 30s od

*Monday, January 30.*

In our report of this day's Market we have to state, that the arrivals of Wheat have been pretty considerable, the fine of which hardly reached last Monday's prices, and the various inferior sorts are dull of sale, and cheaper. We have a good supply of Barley, but which, with Malt, are heavy sale, and rather declining. White and Grey Peas likewise look downwards; of the latter, we have a very full supply. Old Beans of prime quality keep their price. New Ticks the reverse, being in plenty, and rather lower. Oats, of which the supply has been tolerably fair, fully maintain last week's prices.

Wheat	34s to 53s	Malt	50s to 56s od	Grey Peas	30s to 33s od
Fine	54s to 55s od	Oats	19s to 24s	Small Beans	29s to 34s od
Rye	28s to 31s	Polands ditto	24s to 26s od	Ticks	25s to 30s od
Barley	19s to 24s od	White Peas	35s to 42s od		

*Ag. Mag. Vol. 9.*

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## BANKRUPTCIES AND DIVIDENDS,

Announced between the 20th of December, and the 20th of January, 1863.

## BANKRUPTCIES.

*The Solicitors' Names are between Parentheses.*

**A**YSON, J. Manchester, calico manufacturer. (Ellis, Currier Street)  
**B**URTON, F. Ratcliff, builder. (Waller and Unifon, Shadwell)  
**B**ORNECKER, C. Birmingham, merchant. (Swain and Stevens, Old Jewry)  
**B**ENHEAD, W. and J. Clark, Halfway, maltsters and corn merchants. (Robins, Gray's Inn place)  
**B**ROWN, Wm. High Street, St. Giles's, hatter and hosiery. (Hudson, Buckingham Street)  
**B**ROOKBANK, J. Kewick, dealer. (Clayton and Scott, Lincoln's Inn)  
**B**ROCKCO, R. Marham, maltster. (Blagrove, Salisbury Street)  
**B**ARKER, T. Brickwell, victualler. (Cookney, Staples Inn)  
**B**EATON, W. and J. St. Mary at Hill, merchants and brokers. (Palmer and Tomlinson, Warrford Court)  
**C**ORDER, J. K. Rotherhithe, maltster. (Druce, Silvester Square)  
**C**LAYTON, T. Kingston, Hull, printer and bookseller. (Watkins and Cooper, Lincoln Street)  
**C**URLING, W. S. Portland place, Clapham road, stone mason. (Gale and Son, Bedford Street, Bedford Row)  
**D**AY, J. Oxford Street, linen draper. (Walkers, Coleman Street)  
**D**AVIES, E. Ivy Lane, furrier. (Wild, Warwick Square)  
**D**UNN, T. Trinity Bridge, clothier. (French and Williams, Cake Street, Holburn)  
**E**DGAR, J. Blackburn, dealer. (Dewhurst, Blackburn)  
**E**VERETT, T. and J. Bishop, Wells, ship builders. (Isaacs, George Street, Minorities)  
**E**MMENT, H. Manchester, colourman. (Milne and Parry, Temple)  
**F**ORD, J. E. Coleman Street buildings, factor. (Dann, Thredneedle Street)  
**G**OULD, J. Navigation, paper manufacturer. (Bousfield, Bouverie Street)  
**G**REEN, J. and J. Landborough, Manchester, haberdashers and shopkeepers. (Ellis, Currier Street)  
**H**AYNES, B. Pepper Street, St. Saviour's, hat maker, surviving partner of John Haynes. (Collingwood, St. Saviour's Church yard, Southwark)  
**H**UNT, Wm. Chipping Wycombe, inn holder and butcher. (Edmonds and Son, Exchange Office, Lincoln's Inn)  
**H**ART, W. Lombury, Blackwell Hall, factor. (Swain and Stevens, Old Jewry)  
**H**ITCHEN, F. Newcable Street, Strand, whalebone cutter, surviving partner of J. Hitchen. (Jennings and Collier, Great Shire Lane)  
**H**AMMERTON, T. Lynn, Norfolk, paper maker. (Hammerston, Lynn)  
**H**UDSON, M. L. Huntingdon, merchant. (Cooper and Lowe, Southampton buildings)  
**M**ALL, T. Berwick, merchant. (Carruthers, Clement's Inn)  
**H**AZELL, W. Rambury, mealman. (Price and Williams, Lincoln's Inn)  
**H**AMILTON, J. and W. Turkington, Finch Lane, merchants. (Hindman, Dyer's Court)  
**K**ING, W. Shaftesbury, draper. (Bowles, Shaftesbury)  
**L**EWIS, J. Lamb's buildings, Sunhill row, carver and gilder. (Wilkin, Gray's Inn)  
**L**AND, J. Wakefield, merchant. (Sykes and Knowles, Bowell Court)  
**L**AURIE, J. Brentwood, draper. (Willis, Warrford Court)  
**M**ILLS, J. Wood within Saddleworth, dyer and clothier. (Maline and Parry, Temple)  
**M**OLMAN, J. Lawrence Poulney Lane, merchant, in partnership with John Sapier Davallen, Firm J. B. Davallen and Co. (Dann, Thredneedle Street)  
**M**ARTON, S. St. Alban's, corn dealer. (Harvey and Robinson, Lincoln's Inn)  
**M**ALINDA, D. Wigan, Walter Campbell, London, and W. Wright, Liverpool, cotton manufacturers. (Blackstock, Temple)  
**M**ALON, J. Snowhill, shoemaker. (Heard, Hooper's Square, Goodman's Fields)  
**N**ORRIS, T. Petersfield, victualler. (Wulsten, Gray's Inn Square)  
**N**ORRIS, T. Manchester, cotton merchant. (Edge, Temple)  
**N**AITH, J. Dean Street, Shadwell, mariner. (Atthelton, Lily place)  
**N**ETTLESHIP, J. Moorgate, Clarbrough, baker. (Young, New Inn)  
**O**BEY, T. Upper Cleveland Street, Fussey Square, bricklayer. (Van, Methuon and Carr, John Street, Bedford Row)  
**O**ATES, J. Burringham, jobber. (Tooker, Bread Street)  
**P**ERKINS, J. Huntingdon, banker. (Cooper and Low, Southampton buildings)  
**P**ARKER, W. Aiton, carrier. (Niche, Tavistock place, Tavistock Square)  
**P**ILLEY, M. Thorne, grocer. (Roffer, Kirby Street)  
**P**YALL, J. Sittingbourne, shopkeeper. (Bodfield, Lawrence Lane)  
**P**HILLIPS, G. Brook Street, Ratcliffe, timber merchant. (Burt, Golden Square, Crutched Friars)  
**P**APADON, F. St. Swin's Lane, merchant. (Pearce and Dixon, Farnborough Row)  
**R**ATFORD, T. Rotherhithe Street, cheese-monger. (Rippon, Rotherhithe Street)

**R**YLAND, C. York, Tea and chinaman. (Lambert, Hotten Garden)  
**R**ICHOLD, M. Brighthelmston, wine merchant. (Swain and Stevens, Old Jewry)  
**R**OBERTS, L. Blauvan, Tavathan, timber merchant. (Sherwin, James Street, Bedford Row)  
**S**CHOFIELD, J. Copy, N.W. Oldham, cotton manufacturer. (Ellis, Currier Street)  
**S**HEPHERD, P. Lynn, draper. (Langley, Plum tree Street)  
**S**COOT, J. and C. Stewart Billett, Liverpool, merchant. (Kearley, Temple)  
**S**ANDERS, J. Charlotte Street, Old Street road, builder and plasterer. (Crawford, Craven buildings, City Road)  
**S**WAN, J. Wapping wall, mat and block maker and grocer, surviving partner of Richard Swan. (Shepherd, Bartlett's buildings)  
**S**ANDERS, J. Brunswick, scrivener. (Blandford and Sweet, Temple)  
**S**OPES, A. Britwell Prior, dealer. (Mayhew, Cook's Court, Serle Street)  
**T**AYLOR, G. Leek, shopkeeper. (Townsend, Staple Inn)  
**T**ENNISWOOD, S. Pentonville, cutrier. (Perring, Lawrence Poulney hill)  
**W**RIGHT, D. Saddingham, miller. (Foster, Son, and Unthank, Norwich)  
**W**HILE, J. Newnham, pattern ring maker. (Bigg, Matten Garden)  
**W**EBBER, W. Fore Street, linen draper. (Fisher, Bread Street)  
**W**IDDOWS, J. Manchester, calculator. (Ellis, Currier Street)  
**W**HITELEY, A. Hampton Mills, woollen dyer, (Duckworth and Chippendale, Manchester)

## DIVIDENDS ANNOUNCED.

**B**ARLOW, J. Manchester, grocer, Jan. 16  
**B**ABB, J. Cooper, and R. Brewin, Leadenhall Street, hosiery, Feb. 17, final  
**B**LAKWAY, E. J. Roffe, and R. Winter, Coalport, porcelain manufacturers, Jan. 18  
**B**URKET, M. Gray's Throckley, Effex, and Three Crosses, Warwick, London, soap manufacturers, Jan. 24  
**B**URTON, T. and T. Bentley Burton, Leicester, bankers, separate estate of T. Burton, Jan. 30—of T. Bentley Burton, Jan. 31—joint estate Feb. 1  
**B**ATY, J. Grocer's hall court, warehouseman, Jan. 28  
**B**ISHOP, S. Great Newport Street, stationer, Jan. 31  
**B**ROWN, Z. and S. Fison, Coleman Street, merchants, Jan. 28, final  
**B**RITT, W. Lodon, shopkeeper and grocer, Feb. 2  
**B**EAUMONT, R. and S. Vickerman, Healey Butts, clothiers, Feb. 2  
**B**EAUMONT, W. Healey Butts, clothier, Feb. 2  
**B**URROUGHS, E. and R. Oliver, Manchester, drapers, Jan. 30  
**B**ARTIER, J. Ralph, and J. Jacob, Gould Square, Crutched Friars, merchants, Feb. 11  
**B**ALE, J. and R. Packharnis, Manchester, cotton spinners; joint estate, and separate estate of B. Ale, Feb. 13, both final  
**B**LANT, T. of the Walthamrow East Indianas, and of Bouverie Street, mariner, Feb. 4  
**B**UNY, W. Old Gravel Lane, currier, &c. Feb. 4  
**B**IRITAN, G. Bristol, grocer, Feb. 18  
**B**ODZLER, J. Market Deeping, brasier and corn merchant, Feb. 10, final  
**C**OTTERELL, J. Wallall, linen and woollen draper, Jan. 21  
**C**ARR, T. King's Lynn Norfolk, merchant, Jan. 21, final  
**C**LEWETT, J. Cecil Street, Strand, taylor, Jan. 14  
**C**HUBB, J. Bristol, Umbrella maker, Jan. 25, final  
**C**OOPE, H. Sandwich, linen draper, Jan. 31, final  
**C**HAMBERLAIN, P. Norwich, linen draper, Feb. 8  
**C**OPLAND, R. Liverpool, merchant, Feb. 10  
**C**OOMBS, E. St. James's Street, Stationer, Feb. 7  
**D**EACON, T. Queen's Elm, Chelsea, Feb. 10, final  
**D**OUFE, E. Coade's row, Lambeth, milliner, &c. Jan. 24, final  
**D**ONALD, J. A. Aldermanbury, warehouseman, Jan. 27  
**D**ON, C. Finchurch Street, brush maker, &c. Feb. 25, final  
**D**AWSON, Rachel, Edward Street, Fortman Square, milliner, Feb. 7  
**E**GWILL, Wm. Eastwile, cotton manufacturer, Jan. 30, final  
**E**LTON, J. Liverpool, merchant, Jan. 24  
**E**ARLY, K. Chelmsford, coal merchant, Jan. 30  
**E**DWARDS, S. Manchester, cotton spinner, Feb. 1, final  
**E**VERY, W. New Sarum, shopkeeper, Feb. 11  
**F**RYER, G. Red Lion Street, Clerkenwell, merchant, Feb. 14, final  
**F**ELLOW, K. Camberwell, haberdasher, Jan. 27  
**G**ARDNER, M. Thames Street, feedman, Jan. 28  
**G**UTHRIE, R. and C. Cook, Liverpool, merchants, Jan. 28  
**G**REATWOOD, R. Gloucester, grocer, Jan. 16, final  
**H**ODGSON, L. Clow Lane, apothecary, Jan. 27  
**H**ARDY, J. Nightingale Lane, & St. Smithfield, grocer, Feb. 17, final  
**H**ALL, C. Brick Lane, Whitechapel, ribbon weaver, Jan. 17  
**H**OLMES, J. and J. Palmer, Craven Street, Strand, army commission brokers, &c. joint estate, and separate estate of Holmes  
**I**RELAND, W. N. Calvert's, J. Overend, and C. Tomlinson, Lancaster, merchants, separate estate of Calvert, as partner with F. Simpson, of St. Christopher, Jan. 28, final

Jones, J. Whitechapel road, backmaker, Jan. 24, final  
 Jackson, J. Oxford Street, linen draper, Feb. 11  
 Jackson, F. Basinghall Street, factor, Feb. 14  
 Farquhar, J. late of Cavendish court, now of Winchester Street, merchant, Jan. 28  
 Lewis, T. Bedford Street, Covent Garden, druggist, Jan. 28, final  
 Lane, R. Baker Street, agent, Feb. 14  
 Lloyd, R. Thavies Inn, scrivener, Jan. 24  
 Lea, T. C. Oxford Court, Cannon Street, iron manufacturer, Feb. 4, final  
 Ludby, W. Petworth, shopkeeper, Jan. 28, final  
 Lightley, J. and J. Thompson, Upper Thames Street, paper dealers, Jan. 28  
 Lund, W. Virginia Street, builder, Feb. 15  
 Landell, W. Berwick, fadler, Feb. 9, final  
 Maydwell, S. Wheeler Street, Spitalfields, dyer and dry-falter Jan. 27  
 Mallard, J. J. Lime Street, merchant, Jan. 27  
 Moffatt D. Fleet market, grocer, Feb. 4  
 Mawbey, J. Long Backby, cordwainer and fellmonger, Feb. 3, final  
 Milne, R. Rochdale, scrivener, Jan. 30  
 Partridge, T. Dover, fall maker and ship owner, Jan. 27  
 Peirpoint, J. Bunhill row, carpenter, Jan. 27  
 Page, C. Croydon, taylor, Jan. 27  
 Perkins, Timothy, Blue Anchor road, Bernwoodley, tannery, Jan. 21  
 Parker, G. Strand, victualler, Feb. 7  
 Peacock, J. A. Broad Street, Ratcliff, cheese monger, Jan. 28  
 Property, J. Leadenhall Street, victualler, Feb. 25  
 Fourtice, Andrew Paul, and Andrew George, Broad Street buildings, merchants, Jan. 28  
 Robt. H. Liverpool merchant, and W. Robt, Walthington, North Carolina, merchant, Jan. 20  
 Richmond, T. G. Bridge yard, Tooley Street, corn factor, Jan. 21, final  
 Rippon, R. Liverpool, merchant, Feb. 20  
 Rowland, Northy, and Peter, Great Coggeshall, blanket makers, Feb. 28  
 Simpson, W. Clement's lane, merchant, Jan. 20  
 Smith, R. Streatham, and C. Smith, Croydon, Eyrewood, joint and separate estate, Jan. 24, final  
 Stuart, H. Krutzen brook, Walder, Jan. 23, final  
 Sherriif, J. Matten Garden, merchant, Jan. 24  
 Schlotel, S. Mansion house Street, merchant, Feb. 15  
 Seward, P. and T. Pison, Southampton, merchants, joint and separate estate, Feb. 9  
 Swetland, D. Topham, merchant, Feb. 11  
 Tipping, W. Leeds, merchant, Feb. 7, final  
 Turnbull, J. Aldgate, grocer, Feb. 17, final  
 Taylor, T. Birmingham, draper, Feb. 7  
 Taylor, J. Worcester, draper, Jan. 31  
 Tienlett, W. Totnes, shopkeeper, Feb. 7  
 Van Dyck, Peter Dubbedam, Arnold, John Geyers Leuven, and Wynand Adriaen de Gruiter Vink, Circus, Minorities, merchants, joint estate, and separate estates of Leuven, and de Gruiter Vink, March 10  
 Wilson, F. Great Clabon, linen draper, Jan. 24  
 White, T. Jun. Stroud, Kent, coal merchant, Jan. 31  
 Wilkinson, W. and T. Chapman, Jewry Street, and Coal Exchange, coal factors, joint estate, and separate estate of Chapman, Feb. 17, both final  
 Waller, E. Grantham, coach maker, Jan. 28  
 Wood, T. and R. and W. Troughton, Smitham Bottom, brewers, Jan. 28  
 Wigfield, J. Jun. Northallerton, mezzar and grocer, Feb. 11, final  
 Young, Gaven, and Gaven Glennie, Budge row, merchants, separate estate of Young, Feb. 7

### Prices of Raw Hides, Hay and Straw, &c. for January, 1804.

	First Week		2d Week		3d Week		4th Week		5th Week	
Raw Hides.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Best Heifers & Steers, pr ft.	3 6 to 3 10	0 0 to 0 0	3 8 to 4 0	0 0 to 0 0	3 8 to 4 0	0 0 to 0 0	3 8 to 4 0	0 0 to 0 0	3 8 to 4 0	0 0 to 0 0
Middling —	0 0 to 3 4	0 0 to 0 0	3 4 to 3 6	0 0 to 0 0	3 4 to 3 6	0 0 to 0 0	3 4 to 3 6	0 0 to 0 0	3 4 to 3 6	0 0 to 0 0
Ordinary —	3 0 to 3 2	0 0 to 0 0	3 0 to 3 2	0 0 to 0 0	3 0 to 3 2	0 0 to 0 0	3 0 to 3 2	0 0 to 0 0	3 0 to 3 2	0 0 to 0 0
Market Calf —	10 6	—	10 6	—	10 6	—	10 6	—	10 6	—
Eng. Horse —	15s to 17s	—	14s to 17s	—	14s to 17s	—	14s to 17s	—	14s to 17s	—
Sheep Skins —	3 6 to 6 6	0 0 to 0 0	3 6 to 7 6	0 0 to 0 0	3 6 to 7 6	0 0 to 0 0	3 6 to 7 6	0 0 to 0 0	3 6 to 7 6	0 0 to 0 0
Lamb Skins —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0
Prices of Hay and Straw.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.	l. s. d.
St. James's—Hay —	4 15 0	5 2 6	5 2 0	5 — 0	5 — 0	5 1 6	5 1 6	5 1 6	5 1 6	5 1 6
Straw —	1 7 0	1 10 9	1 15 9	1 9 3	1 9 3	1 12 3	1 12 3	1 12 3	1 12 3	1 12 3
Whitech.—Hay —	4 15 0	4 19 0	4 16 0	5 — 0	4 15 0	4 15 0	4 15 0	4 15 0	4 15 0	4 15 0
Clover —	5 18 0	5 18 0	6 — 0	6 0 0	6 — 0	6 — 0	6 — 0	6 — 0	6 — 0	6 — 0
Straw —	1 9 0	1 13 0	1 13 0	1 11 0	1 11 0	1 9 0	1 9 0	1 9 0	1 9 0	1 9 0
Newbury.										
Wheat —	40s to 60s	40s to 58s	40s to 60s	40s to 60s	40s to 60s	41s to 58s	41s to 58s	41s to 58s	41s to 58s	41s to 58s
Barley —	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s
Oats —	19s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s	18s to 21s
Beans —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s
New ditto —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s
Peas —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s
Salisbury.										
Wheat —	46s to 50s	46s to 50s	46s to 50s	48s to 50s	48s to 50s	48s to 50s	48s to 50s	48s to 50s	48s to 50s	48s to 50s
New ditto —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s
Barley —	20s to 24s	19s to 24s	20s to 24s	20s to 24s	20s to 24s	20s to 24s	20s to 24s	20s to 24s	20s to 24s	20s to 24s
Beans —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s
Oats —	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s	20s to 23s
Peas —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s

*Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for January, 1804.*

<i>Price of Hops.</i>		First Week		2d Week		3d Week		4th Week		5th Week	
Bags.		s.	s.	s.	s.	s.	s.	s.	s.	s.	s.
Kent	—	94 to	105	84 to	105	90 to	110	90 to	110	90 to	110
Suffex	—	90 to	100	90 to	100	90 to	102	90 to	102	90 to	105
Essex	—	96 to	100	96 to	100	90 to	100	90 to	100	90 to	105
Pockets.											
Kent (new)	—	108 to	126	108 to	126	106 to	126	105 to	126	110 to	126
Suffex	—	108 to	114	108 to	114	105 to	120	105 to	120	108 to	120
Farnham	—	120 to	160	120 to	160	120 to	189	120 to	189	180 to	200
Seeds.											
Red Clover per cwt.	—	60 to	100	40 to	100	40 to	100	46 to	100	50 to	100
White Clover, ditto	—	70 to	190	70 to	126	70 to	126	70 to	126	70 to	126
Trefoil, ditto	—	30 to	60	30 to	58	40 to	63	20 to	65	25 to	65
Caraway ditto	—	60 to	65	60 to	65	60 to	65	40 to	66	60 to	70
Coriander ditto	—	16 to	17	16 to	17	16 to	17	14 to	18	16 to	20
Turnip, (per bushel)	—	20 to	30	18 to	28	18 to	28	20 to	32	20 to	28
Canary Seed (per last.)	—							65 to	70	65 to	70
White Mustard Seed	—	10 to	12	9 to	11	9 to	11	10 to	14	12 to	14
Brown ditto	—	10 to	16	10 to	14	10 to	14	10 to	16	12 to	16
Rape Seed, (per last)	—	351 to	381	351 to	381	351 to	381	361 to	391	351 to	381
<i>Meat at Smithfield,</i>		<i>s.d.</i>		<i>s.d.</i>		<i>s.d.</i>		<i>s.d.</i>		<i>s.d.</i>	
To sink the offal, p. ft. 8lb.											
Beef	—	4	0 to 5	8	4	4 to 5	8	4	0 to 5	4	6 to 8
Mutton	—	5	0 to 6	0	4	8 to 6	0	4	4 to 5	6	5 to 6
Veal	—	6	0 to 8	0	5	0 to 7	6	5	0 to 6	6	0 to 8
Pork	—	4	0 to 5	4	3	8 to 4	4	2	8 to 3	4	0 to 5
Lamb	—	0	0 to 0	0	0	0 to 0	0	0	0 to 0	0	0 to 0
Head of Cattle—Beasts about	—	1,600		1,800		2,500		2,300		2,000	
Sheep and Lambs	—	7,500		8,500		15,000		11,500		11,000	
<i>Price of Leather.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>	
Butts, 50lb. to 56lb. each	—	20	to 21	20	to 21	20	to 21	20	to 21½	20½	to 21½
Ditto, 60lb. to 65lb. each	—	22	to 23	22	to 23	22	to 23	22	to 23	22½	to 23
Merchants Backs	—	20	to —	20	to —	19½	to 20	19	to 20	19½	to 20
Dressing Hides	—	21	to 22	21	to 22	23	to 24	22	to 24	22	to 23½
Fine Coach Hides	—	23	to 24	23	to 24	24	to 25½	24	to 25	24	to 25½
Crop Hides for cutting	—	21	to 22½	21	to 22½	22	to 23	21½	to 22½	22	to 23
Flat Ordinary	—	19½	to 20½	19½	to 20½	20	to 21	20	to 21	20½	to 22
Calf Skins, 30 to 40lb. p. doz.	—	28	to 32	28½	to 32½	28	to 32	29	to 33	28	to 33
Ditto, 50lb. to 70lb. do.	—	29	to 33	29	to 33	28	to 32	28	to 32	28	to 32
Ditto, 70lb. to 80lb. do.	—	27	to 29	27	to 29	27	to 30	28	to 30	28	to 30
Sm. Seals (Greenland)	—	42	to 45	42	to 45	42	to 45	42	to 45	42	to 45
Large do.	—	51	to 71	51	to 71	51	to 71	51	to 71	51	to 71
Tanned Horse Hides	—	18s	to 28s	18s	to 28s	18s	to 28s	18s	to 30s	18s	to 30s
Goat Skins per doz.	—	—	to —	—	to —	—	to —	—	to —	—	to —
<i>Price of Tallow.</i>		<i>s. d.</i>		<i>s. d.</i>		<i>s. d.</i>		<i>s. d.</i>		<i>s. d.</i>	
St. James's Market	—	4	7	4	9½	4	8½	4	9	4	10
Clare Market	—	4	7½	4	8	4	8	4	9	4	9½
Whitechapel Market	—	4	7½	4	8½	4	8	4	8	4	8
Per stone of 8lb. Average	—	4	7½	4	8½	4	8	4	8½	4	9
Town Tallow	—	79	0	80	0	79	6	80	0	80	6
Russia ditto (Candles)	—	78	0	78	0	78	0	78	0	78	0
Russia ditto (Soap)	—	73	0	73	0	73	0	73	0	73	0
Melting Stuff	—	65	0	65	0	65	0	64	0	64	0
Ditto rough	—	44	0	44	0	44	0	44	0	46	0
Graves	—	14	0	14	0	14	0	14	0	14	0
Good Dregs	—	12	0	12	0	12	0	13	0	12	0
Yellow Soap	—	84	0	84	0	84	0	84	0	84	0
Mottled ditto	—	92	0	92	0	92	0	92	0	92	0
Curd ditto	—	96	0	96	0	96	0	96	0	96	0
Candles, per dozen,	—	12	6	12	6	12	6	12	6	12	6
Moulds	—	13	6	13	6	13	6	31	6	13	6

**PRICES OF COALS AT THE COAL EXCHANGE, LONDON,  
For JANUARY, 18c4.**

Names of Coals.	Mon.	Wed.	Frid.	Mon.	Wed.	Frid.	Mon.	Wed.	Frid.	Mon.	Wed.
	2d.	4h	6h	9th	11th	13th	16th	18th	20th	23d	25th
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Adair's Main	52 6			47							
Baker's Main											
Bedford Main											
Benton		50 6		47	47 6						
Biddick Main					71						
Bigg's Main	55	54	53		54	50					
Bladon Main									49	48 9	
Blyth		50 6			47						
Boundry											
Bourn Moor		46 6	49								
Brandling		50 6							47		
Birtley											
Byker											
Byker, High & Low											
Cowpen											
Derwent											
Eden Main											
Eighton Main											
Flockton											
Greenwich Moor											
Haigh Moor											
Hartley		50 6			48						
Heaton Main	55	53 6	52 6		49	50				48 9	47 6
Hebburn Main	55	54			50	50			49		
Holywell	51 6			57 6			57	49	49		
Kenton Main	55						56				
Lambton's Low dit											
Lawson's Main											
Morley Hill											
Montague Main	58										
Mount Moor											
Murton											
Murton High Main											
Newbottle											
New Tansfield											
Pitt's Tansfield M.			53	50 6							
Primrose			48								
Pontop											
Percey											57
Rectory											
Ruffel's Main											
Shariff Hill											
South Moor		49									
Stanley Main											
St. David											
Team											
Tyne Main											
Ufworth Main											
Walbottle Moor											
Walker	44 6					49			48 6	47 6	46 6
Wall's End	50 3		54		51		50 6	50 6			
Warwick						51					
Wharton											
Willington	54 6		52 6						49	48 6	
Wylam Moor				47							
Wentworth											
Whitefield											
Main Wooler											



**AVERAGE PRICES OF CORN**, by the quarter of eight Winchester bushels; and of **OATMEAL**, per boll, of 140 pounds Avoirdupois: *From the Returns received in the Week, ended JANUARY 17, 1804.*

**INLAND COUNTIES.**

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	54	0			24	0	25	4	36	3	40	1		
Surrey	52	0	32	0	23	7	22	6	37	0	40	3		
Hertford	50	0	35	6	21	6	20	4	32	9	37	9		
Bedford	43	0	31	2	20	1	19	8	29	8	34	7		
Huntingdon	43	5			18	8	17	4	24	11	30	4		
Northampton	51	6	31	0	19	10	18	10	31	0	32	0		
Rutland	55	6			19	6	18	6	33	0			57	3
Leicester	53	1			21	8	19	4	33	10	47	1	36	7
Nottingham	59	4	32	0	24	4	21	2	56	6				
Derby	58	4			26	4	20	10	40	4	40	0	20	9
Stafford	52	8			25	0	23	4	44	5			32	6
Salop	47	5	32	6	24	1	22	7	44	5	42	11	63	7
Hereford	45	10	32	0	24	5	23	7	43	2	42	4	60	2
Worcester	45	5	33	2	23	8	24	11	40	2	44	7		
Warwick	53	1			25	0	23	2	38	6	52	4	45	9
Wilts	49	0			23	2	21	0	40	4	35	0		
Berks	53	4			23	3	22	8	35	9	35	0		
Oxford	49	9			21	1	20	5	31	11	34	2		
Bucks	51	1			22	7	22	1	33	7	38	0		
Brecon	49	7	32	0	25	4	21	4			34	8	36	0
Montgomery	46	11			16	0	16	2			37	4	44	6
Radnor	46	5			23	3	20	7			41	3	67	10

**Maritime Counties.**

Essex	53	10	30	6	21	3	23	4	31	9	31	6		
Kent	55	2			25	6	26	9	34	11	38	0		
Suffex	53	10			26	7	25	4			44	6		
Suffolk	47	10			20	6	20	4	30	1	34	7	48	6
Cambridge	44	0	31	10	20	0	13	8	27	8	28	0		
Norfolk	45	3			19	6	18	7	28	7	32	1		
Lincoln	48	6	26	3	20	3	17	5	29	3	30	0		
York	49	4	31	10	22	1	19	0	37	0			42	8
Durham	49	9					21	3						
Northumberland	46	10	36	0	22	1	20	2			32	0		
Cumberland	53	11	41	4	26	4	22	2						
Westmorland	53	10	43	2	25	10	22	0						
Lancaster	57	11			27	0	25	1	44	0	68	0	21	6
Chester	53	4			27	3			44	4			21	3
Flint	49	4			28	4					36	10		
Denbigh	54	3			27	4	20	1	48	0	38	5	38	2
Anglesea							16	6						
Carnarvon	58	0	48	0	25	2	19	6					42	1
Merioneth	56	0			27	6	18	10			40	0	36	0
Cardigan	51	0			19	2	15	11			40	0		
Pembroke	45	1			21	6	16	0						
Carmarthen	56	5			22	0	16	8						
Glamorgan	55	7			27	8	19	11						
Gloucester	49	4			22	7	22	5	34	5				
Somerset	54	8			24	0	22	2						
Monmouth	51	0			25	4								
Devon	57	7			26	0	20	9						
Cornwall	53	6			26	10	18	7						
Dorset	51	3			21	10	24	0						
Hants	49	6			23	1	24	1	40	4				

## A TABLE of the Prices of STOCKS in January, 1804.

1804	Bank Stock.	3 per Ct. Red.	3 per Ct. Confols.	14 per Ct. Confols.	5 per Ct. Navy.	5 per Ct. Loyalty.	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irish 5 pr. Cent.	Omnium.	India Stock.	English Tickets.	Consols for Account
Jan. 2	146½	54½		70½		90 7-16	16	3 3-16		9 5-16		5½		17 10 0	56½
3	146	54½		70½		90½	16	3 3-16	53½	9 5-16		5½		17 10 0	55½
4		54½		70½		90½	16					5½		17 10 0	55½
5	146½	54½		70½		90½	16					5½		17 10 0	56
7	146½	54½	54½ ex. d.	70½		91	16 1-16	3 3-16	53½			5½		17 10 0	56½
9	147	55	54½	70½		91½	16½			9½		5½		17 17 0	56½
10	147½	55½	54½	72½		92½	16½	3½	54½	9½		4		17 17 0	56½
11	148½	55½	55	72½		93	16½	3 5-16		9½		4		17 17 0	56½
12	150½	55½	55	72½		93	16 5-16	3½	54½			4	170	17 17 0	56½
13		55½	54½	72		94	16½					4½		18 0 0	56½
14		55½	55	72		94½	16½	3½	54½			4½		18 0 0	56½
16	151	55½	54½	72		94½	16½	3½	54½	9½		4	170	18 5 0	55½
17	152	55½	54½	72		94½	16½	3 5-16				3	170½	18 5 0	55½
19	152	55½	55½	72½		93½	16½		54½	9 9-16		3		18 10 0	56½
20	153½	56½	55½	72		94½	16½	3 5-16	55½	9 9-16		2½		18 10 0	56½
21		56½	55½	73		90	10 11-16					3		19 0 0	56½
23		56½	56½	73½		95	16 9-16					3		20 8 0	56½
24	152½	56½	55½	73		94½	16 9-16		55½	9 9 16		2½		20 8 0	56½
26	152½	56½	56½	72½		89½	16 9-16		55½			2		20 8 0	56½
27	153½	56½	56½	73½		89½	16 9-16		55½	9 9 16		2½		20 8 0	56½
28	153½	56½	56½	73½		89½	16 9-16	3½	55½			2½		20 8 0	56½

T. BISH, STOCK-BROKER, Old State-Lottery Office, No. 4, Cornhill, London.

## TO OUR CORRESPONDENTS.

WE have seen Mr. Lester, and we understand he has written to Agricola Norfolciensis on the subject on which he enquires.

Topographus will soon see we shall not neglect his communications.

We hope Veterinarius will excuse our remarking, that however important the subject of his Essays, the last has rather exceeded the limit to which we wish them to be confined, as they will, if he fulfil the intentions he has expressed, become a permanent article through the nine ensuing numbers. As we presume the next communication on this subject is already prepared, we shall not be disposed to abridge it, should it be liable to this objection.

The Postscript to the letter from Thomas N. Parker, Esq. of Hatton Grange, introduced, page 398, et infra, in our last Number, is from a previous publication, and should not have been connected with his letter of the 7th of Dec. 1803. It will be satisfactory to our Readers to learn, that further improvements on this subject will be very soon published, and we shall take the earliest opportunity of announcing them.

We have inserted the letter from *Democritus* with some reluctance, because it has a sarcastic character hardly within the limits of good nature. As far as we are personally concerned, we can readily forgive the observation alluded to, which would have escaped our notice had it not been forced upon our attention by our facetious correspondent.

We notice the following corrections by desire of Agricola Northumbriensis.

## ERRATA.

No. 53.	Page	402	line 40	after, "dung" insert, <i>even</i>
		406	15	after, "thirteen" insert, <i>inches</i>
		407	2	for, "turnips" read, <i>turnip</i>
		407	6	for, "in every respect similar to each other, except with regard to size" read, <i>of from the midaling to the large size.</i>
		408	13	for, "the" read, <i>that</i>
		409	1	for, "expedited" read, <i>expedites</i>

# THE AGRICULTURAL MAGAZINE.

No. LV.]

FEBRUARY, 1804.

[Vol. X.

## DESCRIPTION OF MR. WESTCAR'S PRIZE OX,

WITH A PLATE ANNEXED.

**I**N our Number LIII. we noticed the various animals which obtained the prizes at the Smithfield Exhibition; and we stated, that Mr. Westcar, was again the successful candidate for the premium of 25 guineas, assigned to the owner of the best ox of 160 stone or upwards.

The engraving which accompanies the present number, will, at least remind those of our Readers, who have seen that animal, of some of his admirable proportions; and will suggest to others, no very imperfect idea of the original.

Having, in our publication for December last, entered so fully into the particulars of the shew of prize cattle, and on the qualifications necessary for a breeder of this particular species, we think it unnecessary to dilate further on the subject.

The purchaser of the last prize ox, was Mr. Chapman, of Fleet Market, and it weighed 266 stone; the present only weighed 231 st. 6 lb. and was bought by Mr. Giblett, of Bond Street. We sincerely wish, that all our correspondents could have a sirloin, as we are confident that the firmness of the flesh, the even covering of the fat, and the palatableness of the entertainment, would be a stronger stimulus to improvement than all our dissertations on the animal economy.

It will be seen by the beasts of the last shew, that the prejudices of breeders and graziers are not so strong as they were formerly in favour of the ponderous and gigantic species, and we think the present opinion well founded \*.

E.

\* The following are some concise deductions that have been made in favour of the present system.

1. A large animal requires proportionably more food than two smaller ones of the same weight.

2. The meat of the large animal is not so fine grained, and consequently does not afford such delicate food.

3. Large animals poach pastures more than small ones.

4. They are not so active, and consequently not so fit for working.

5. Small oxen can be fattened with grass merely, whereas the large requires to be stall-fed, the expence of which exhausts the profit of the farmer.

6. It is much easier to procure well-shaped and kindly-feeding stock of a small size than of a large one.

*Ag. Mag. Vol. 10.*

M

## ON DRILL HUSBANDRY, HOEING, PRICE OF PROVISIONS, &amp;c.

*To the Editor of the Agricultural Magazine.*

SIR,

Feb. 14, 1804.

I BEG that your correspondent, P. J. will accept my thanks for the handsome manner in which he has received my remarks on his communication on the culture of turnips. His letters in your magazine obliterate all doubts of his making any agricultural experiment otherwise than with proper implements, and with judgment and accuracy. I have tried the culture of turnips on raised drills, with intervals of 26 inches, on various descriptions of land; and from accurate *comparative* experiment, (the particulars of which I will probably communicate, through the channel of your magazine, at a future period), I am convinced that it is greatly superior, either to the broad-cast method, or to that of sowing with *narrow* intervals; and I hope P. J. will give it a fair trial, *both on the light and sandy, and stronger soils*. Any information I can give him, I shall be happy to communicate. If I am rightly informed, Mr. Coke, and some other able and public spirited friends to the important cause of agriculture, (in Norfolk,) have drill-machines for sowing turnips, of nearly the same construction as those used with such distinguished success in this part of the kingdom and the Southern district of Scotland, where, I believe, our excellent practice originated, which, together with the invention of our present valuable threshing machines, I consider as sufficient (*independent* of their other merits) to render our Northern brethren famous in the history of agriculture, to the latest posterity. The invention of the common dressing or winnowing machine, or, at least, its use in this kingdom with effectual improvements, is also due to them, and is still considered as a discovery of importance; but what is it when compared to the vast power and utility of our threshing mills! Before the practice of sowing turnips on raised drills was so well understood here, I sometimes tried the mode pursued by the farmers of Norfolk, (mentioned by P. J.) of applying, and lightly ploughing in, the dung, about a month previous to the seed-ploughing. But instead of deriving any advantage from it, I am satisfied that its effects were *prejudicial*, not only in leaving a good deal of dung on the surface of the ground (after each of the two last furrows) exposed to the injurious effects of the solar rays, &c. but in burying other parts of it at two great a depth. I have long considered it of vast importance, not only to allow the land to remain a few weeks, untouched with any implement whatever, between the last ploughing and the seed-furrow, but to have the dung applied fresh from the dunghill, with all

its moisture in it, and ploughed in *immediately afterwards*, depositing the turnip-seed as soon as possible after the seed-furrow. By such management, great quantities of the weeds are destroyed by the plough after having vegetated, and the turnip-seed applied to the soil, while its moisture (and that of the dung) is *fresh*. Attention to these matters seems necessary in the raising of many kinds of crops, but is not more so in any operations whatever than in the culture of turnips. I perfectly agree with P.J. however, that the existence of the drill-husbandry does not absolutely depend on the horse-hoe; and that the breadth of the intervals should, in some measure, depend upon the quality and condition of the land. But if the intervals are as wide on poor as on rich soils, the plants, either of corn or turnips, should not be so near each other in the latter as the former. I have experienced advantages from drilling corn, with intervals of 10 inches, (on middling land) without any hoeing whatever. These were, that the produce, both of corn and straw, was *rather* greater than that of the contiguous broad-cast corn, and that I saved about three or four shillings an acre in the article of seed. It is necessary to remark, however, that the crops succeeded a turnip-crop, on land perfectly clean, and not subject to weeds of any kind. If it had, there can be no doubt but the drilled crops would have been inferior to the other; for the open and airy spaces, (the intervals) would have favoured the growth of weeds, and rendered them more luxuriant than they could have been under the closeness of the broad-cast crops; consequently, they would, in a greater degree, have robbed the corn of its food. In most situations, however, hoeing is necessary; and though complete hand-hoeing may be accomplished at an expence not exceeding the amount of the seed saved by drilling, yet there can be no doubt that horse-hoeing is much cheaper, and, (where the intervals are of sufficient width) much more fertilizing.

In Norfolk, as in many other districts, I can readily conceive, that the labourers will be awkward at, and averse to the introduction of any mode of culture or hoeing to which they have not been accustomed. In such cases, it is only by the presence and persevering zeal of the farmer himself, that such obstacles to improvement can be satisfactorily surmounted; and I would entertain but little doubt of being able, by actual experiment, speedily to convince the labourers, in any part of the kingdom, that turnips on raised drills, with broad intervals, can be much easier, and more regularly hoed, and at a much smaller expence than in the broad-cast method, or that with narrow intervals. In this quarter (where the whole of the fallow land is sown with turnips) the hand-hoeing of our tur-

nip-crops is performed by women and children. Men seldom or never perform that operation, and more regular and perfect hoeing is not to be found in any part of the world; indeed it is impossible to exceed it. Were it not for the expedition promoted by drilling *with broad intervals*, and the facility with which our women and boys and girls, can hoe the turnips under that management, the rate of population in this part of the country, would not enable us *perfectly* to hoe one half of our turnip crops, which we justly consider as the sheet anchor of our husbandry.

In hoeing, the women place one foot on each side of a ridge or drill, and apply the hoe to that adjoining it, moving that implement directly across the rows, or at right angles to the drill, by which all the plants and weeds on about 10 inches of the ground, are removed by one cut, and, together with a good deal of earth, placed in the intervals, which, after the first hand hoeing, are pretty much filled up, and the surface of the land then appears nearly *even*.—Proceeding in this manner it is surprising, to a stranger, to observe the quantities of ground hoed in the course of a day by some of our boys and girls, *when the operation is performed (as it always ought to be) e're the plants attain too great a size*. In most parts of this kingdom as well as in Norfolk, farming will this year be unprofitable, if not a losing concern. In this district the turnip crops are, happily, much greater than in most other, and those of wheat are also productive and unusually fine in quality, but unfortunately the prices of those articles have fallen considerably, and are now only 4s 9d to 5s 6d per Winchester bushell, with an exceeding dull sale. oats sell readily at 2s 3d to 2s 8d per bushell, but barley, though fine, is almost *unsaleable*; I believe nearly one half of our crops of that species of grain have been broken in the mills, and mixed with the small oats, for horses, &c. and, without adverting to the superiour weight of meal from an equal quantity of barley, it is cheaper than feeding with oats, which have, during the whole of this season, been at a higher price per quarter than the former kind of corn. Notwithstanding the moderate price of wheat and the very low price of barley, that of labour continues extremely high; which, together with the effects of our poor laws, are very unfavourable to the industry and frugality of the laborious class. These times, therefore, so very unpropitious to the cultivators of our soil, cut two ways, like a two edged sword, against the agriculture and manufactures of the kingdom.—For several years our corn-markets have been very unsteady, sometimes too high, and at others too low, and to me it appears unreasonable to expect them otherwise, till such measures be

adopted as will not only secure the British agriculturist against too great an importation of corn from countries where it can generally be afforded at about one half of the price necessary in this country, but open (by means of bounties) advantageous channels for exporting our surplus corn in plentiful seasons. Instead of this, however, what measures are now pursued? why Sir, with a most abundant quantity of corn on hand all our ports are open for importation, while exportation is prohibited, and this too at a time when a great part of our own produce cannot be converted into money. Thus is the dispirited farmer reduced to the necessity of supporting a most enormous head of expences for rents, labour, taxes, &c. and to struggle against unprecedented difficulties, with corn in general considerably too low, and much of it unsaleable!! And thus is British agriculture, the source of our population, opulence, and real strength, repressed, and that of foreign countries encouraged! I am decidedly of opinion with Lord Sheffield—that our agriculture will never be sufficiently extended, nor the country secured against the dreadful effects of dearth, 'till the prices at which foreign corn is admitted by our corn-laws, be considerably increased, and these laws enforced. So great however, is the preponderance of the commercial interest, that I am not so sanguine as P. J. and am apprehensive that effectual remedies will not be applied. For the incessant cry of our manufacturers and merchants is, that unless provisions be continued at a low price, they cannot support a competition against foreigners in foreign markets. A few facts, however, are worth ten thousand speculative opinions, and I beg leave to ask these gentlemen at what period of history the trade of this kingdom flourished so greatly as for the last 5 or 6 years, and whether, at any other period, provisions were at so high a price.—Within that period these necessary articles were raised to an enormous price, in consequence of two of the most unpropitious seasons (and not by war as has been erroneously stated) ever remembered, yet within that space of time it cannot be denied that our exports increased millions upon millions beyond their amount at any former period, and that this vast increase was not owing to colonial but to British goods.—I am no advocate for *very high* prices of corn, all I wish for is a price adequate to the increased expences of the farmer, without which, our agriculture will languish, the rents of land will decline, our industry and frugality, and consequently our trade, will diminish, money will become as scarce as in the American war, *when the price of provisions were low*, the arm of government will be weakened, and the British empire will cease to be the bulwark of the world. But Sir, I feel that I am



now approaching what my opponent on the subject of animal labour, Agricola Meridionalis, calls "the Aerial reign of Political Rhapsody," and therefore, however much I may be inclined, in common with P. J. to discuss a subject so interesting to many landholders and agriculturists, I must desist, lest I subject myself to a rebuke from the keen and able pen of A. M. who, perhaps, entertains opinions different from those I have advanced.

I am Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

## CALCULATIONS ON SPANISH AND ENGLISH WOOL.

*To the Editor of the Agricultural Magazine.*

SIR,

I lately sent you some observations on Spanish Wool, which I shall not discontinue, although the engagements of commercial life involve much more of my time in manuscript, than in printed correspondence.

I have often thought that authentic documents, with a few pointed remarks, are much more useful than prolix and laboured discourses, founded merely on conjecture. I have, therefore, submitted to your notice, the subsequent figures, which give an accurate view of the quantity of Spanish wool introduced at different periods into this country, to which I shall add a few deductions from political arithmetic.

Spanish wool imported.			
	Pounds Weight.		Pounds Weight:
Anno 1771	1,829,772	Anno 1782	991,510
1772	1,536,685	1783	2,629,692
1773	1,477,284	1784	1,602,674
1774	2,133,496	1785	3,135,252
1775	2,031,973	1786	1,554,637
1776	2,062,628	1787	4,188,252
1777	2,853,065	1788	4,173,584
1778	489,869	1789	2,693,889
1779	519,664		
1780	323,618	Total -	38,705,876
1781	2,478,332		

It will be seen in the above accounts, that during three years of war, in 1778, 1779, and 1780, we received so small a quantity of the wool of Spain, that it could be of no material consequence to our manufactures, the average being only 444,384lb.; and yet, I apprehend, it will be found, that no essential impediment arose in the manufacturing countries

where fine wool is employed. If this be the fact, it may afford the pleasing expectation, that we may wholly dispense with the employment of this Wool, if the influence of the French Government should occasion the prohibition of the export to these islands. On this subject, I cannot avoid taking notice of an intimation of Sir John Sinclair, on the policy of imposing a small duty on foreign wool. I think myself, considering the influence to which I have alluded at the Spanish Court, nothing could be more unseasonable than such a duty, because it would facilitate the designs of the French, to obtain the monopoly of Spanish Wool; and then we should suffer two inconveniences, the one in depriving ourselves of its use, the other in promoting the consumption of it in the state which has long been a rival market for fine cloths. This objection had not acquired the same weight, when Sir John Sinclair made the suggestion, which the war, and all the malice of hostility has since given it.

Taking the importation of the last ten years in the above account, it is, on an average, for each year, 2,377,144, which, I think, at the present prices, may be fairly estimated at 4s. per lb. which will make the total value, 475,428l. 16s. When we consider the prodigious extent of the commerce of this country, when, amidst the difficulties of war, our exports have exceeded fifty millions sterling, it will not be imagined a matter of very serious importance, should we be deprived of the raw article of Wool to this extent, which, I believe, is stated higher in my estimate, than in any previous account.

While we are adverting to the subject of the entire loss of Spanish Wool, it deserves to be particularly considered, how that loss should be supplied, without involving the ruin of our manufactories employed on this article. I think your friend, Chorographus, will grant to me, that Great Britain will be found to contain about 73,000 square miles, or 46,720,000 acres. Reckoning only 3 lbs. to each fleece, and 3 sheep to each acre, less than 250,000 acres, or a track of territory of about the extent of Norfolk and Suffolk, will be sufficient to feed the quantity of fine woolled sheep which the deficit of Spanish Wool would require. When we consider, that of the 46,720,000 acres, which in this gross calculation we suppose Britain to be composed, upwards of eleven millions of acres are in a state of waste; when we further advert to the applicability of the greater part of this waste to the maintenance of sheep, we shall see, that, in point of quantity, the loss of Spanish Wool may be made of no consequence to our manufactures.

To this position, I think all your readers will accede, but there may be those who are extremely doubtful of the possibility

of supplying the deficiency in the quality. Such persons I must, at present, refer to your intelligent correspondent, Mr. Nehemiah Bartley, and others, who have detailed their experiments and opinions on this subject. I shall content myself with concluding this letter with an extract from the communication made on this subject, to the Edinburgh Wool Society, which will shew the prodigious extent, to which the trade in British Wool has been conducted.

The Wool of England, in the reign of Edward III. is generally supposed not to have exceeded in quantity 150,000 sacks, of 360 pound weight each, which is equal to 225,000 packs of 240 pounds, according to the packages of those days. In later times, computations have greatly varied. According to Davenant, there was, in England alone, at the commencement of the present century, about 400,000 packs, worth 5*l.* each; which, when manufactured, produced eight millions in value. Trowel, in his plan for preventing the clandestine running of wool, printed anno 1738, supposes 800,000 in England and Ireland, and about 925,000 packs in the three kingdoms.\* Others, about the same time, computed the number of packs at 1,274,000. Mr. Arthur Young calculates the number of sheep in England alone, at nearly 29,000,000; and the value of the whole growth and labour of the Wool of Great Britain and Ireland, at 17,695,529*l.*; furnishing employment to about a million and a half of people. We shall suppose, however, that there are only 28,800,000 sheep in the whole island of Great Britain, producing, at an average, 5*lb.* weight of Wool each, or 144,000,000 *lb.* in all, equal to 600,000 packs, and worth, at the rate of 8*l.* per pack, 4,800,000*l.* If the value of the raw material is quadrupled by the labour that is bestowed upon it, the growth and labour will amount to 19,200,000*l.* to which, if there be added the value of the Wool imported from Spain, and the labour employed in it, *it will make a total of about twenty millions.*

I shall send a letter on a subject to which I have before adverted, by the first convenient opportunity, and in the mean time, I remain,

Sir, your most humble servant,

MERCATOR TARRACONENSIS.

\* A respectable member of this association (Mr. Wansey, of Salisbury) informs me, that in 1740, an estimate of the growth of Wool, in England, was given in to the Lords of the Treasury, when it was stated at 738,000 packs. This is probably the same with Trowel's.

## ON THE RESTORATION OF THE CULTURE OF VINEYARDS IN ENGLAND.

*To the Editor of the Agricultural Magazine.*

SIR,

**A**GRICULTURE, like other things, has been subjected to the caprice of fashion, by which the most valuable discoveries have been lost to this country. We are much indebted to those who are disposed to remind us of this neglect, and especially if it regards a species of produce which extensively affects the public expenditure, and which increases our dependence on foreign nations.

These reflections I would apply to the subject of Vineyards, which were formerly very common in England, but which are now almost wholly unknown. Those conversant in the local history of this branch of culture, are not uninformed, that there was a famous vineyard at Bath, planted with white muscadine, and black cluster grapes, which at one time yielded 60 hogsheads of wine at a vintage. From a wall of my father's, which belonged to the old palace of King James, at Theobalds, neither very long or very lofty, a hogshead of wine was annually made for the family.

Mr. Bradley mentions a small vineyard of a private person at Rotherhithe, consisting only of one hundred vines, that yielded at a vintage, 95 gallons of wine of the true Burgundy flavour, which in quality exceeded every thing produced north of Paris.

Mr. Miller apprehends, that renewed trials, conducted with judgment, might be attended with a success beyond the expectations that are now generally entertained. With this view, particular attention should be given to the soil, situation, &c. The best soil, he says, for a vineyard in England, is such whose surface is a light sandy loam, and not above a foot and a half or two feet deep above the gravel or chalk. The most desirable situation is that on the north side of a river, upon an elevation inclining to the south, with a gradual descent for draining the moisture; always open to the south, defended from the north and east by hills with a chalky surface, and surrounded by an open hilly country.

As to the method of planting vines, what is principally taken care of is the distance that is to be preserved from plant to plant, for with regard to the depth it must be regulated by the depth of the soil.

I am firmly persuaded that in planting a vineyard, the plants should be placed at least three feet distance one from the other, particularly if the ground lie on the flat. My reasons are as follow :

*Ag. Mag. Vol. 10.*

N

1st. The young vines grow thereby much larger and finer, and in cutting the vine it may be made to spread, or grow high, as the vine-dresser pleases.

2dly. There is no danger of their branches being stunted and growing bushy, which is an ugly sight when they are full leaved.

3dly. The branches of the vines are less in danger of being injured, and look handsomer: it is only necessary to behold those vineyards where the plants stand so close as almost to touch each other, so that you cannot pass through the rows without rubbing against them, when the young shoots are made, and as they are very tender, without breaking them; this occasions a very considerable loss, for when these shoots are broken off, they are entirely lost, and of course the fruit they would in all probability have borne.

4thly. If you place your plants at a smaller distance than that I have above mentioned, you will find that the culture of the vineyard will be much more difficult and troublesome; in digging between the rows the workmen tear their cloaths, scratch their arms, and in fact, work in continual torture; whereas at the distance I have recommended, all this trouble and loss is avoided.

5thly. It is very evident that the produce will be much more considerable, and particularly the wine will be better; for every day's experience confirms it to us, that in the vineyards where the plants stand too close together, the grapes almost always rot before they attain a perfect maturity. What is to be done in this extremity? The grapes must be gathered; and what are they? Either grapes not half ripe on account of the shade the plants cast, or rotten from the same cause. And what sort of wine is produced from these grapes? It is heavy, raw, and very improper for keeping; whereas in vineyards where the plants stand at the distance I have already recommended, the grapes attain a perfect maturity, grow much larger, and are not rotten before they are ripe; and the sun darting on them all his genial beams, they produce an excellent wine.

I am, Sir, Your's, &c

Dec. 22, 1803.

ARBUSTIVUS.

# ON THE DANGER OF PROCRASTINATION, AND ON THE SUCCESS OF SPRING WHEAT.

To the Editor of the *Agricultural Magazine*.

SIR,

IT is a familiar proverb that delays are dangerous, but by woeful experience, the farmer has been taught that to no order of men are they more dangerous than to those who cultivate the ground.

“In all labour there is profit,” is the observation of the wisest character of antiquity: but this sentiment must be understood with Selden’s grains of allowance, for procrastination will disappoint the hopes of every candidate for emolument. The same writer has said that there is a time for all things, but if that time be neglected, we are told “the fool foldeth his hands together and eateth his own flesh.”

Accustomed to the parochial duties of the sacred profession, at the regular revolutions of the vernal and autumnal seed time, I have dwelt with as much earnestness on the necessity of avoiding delay, as I have in the time of harvest, on the necessity of gratitude to the beneficent deity, for the productions of exuberant nature. Driven about from curacy to curacy in ten different counties, I have seen many a melancholy face, and poured the balm of consolation into many a melancholy heart, labouring under the destructive effects of delay. But I have rather been disposed to afford this relief by exciting to active duty, than to passive contemplation. To many a farmer who has admitted the time of winter seed to escape, I have successfully recommended the expedient of spring sowing, and as the time is approaching when this practice may be adopted, I will state the most judicious experiment of the kind that has fallen within my knowledge.

I hope, Mr. Editor, it requires no apology, to propose that useful information should be widely circulated through the medium of your work, and I will give the account with very little variation from the form in which it was submitted to a respectable public society.

The experiment was made on the large scale, and was tried expressly with a view of drawing faithful inferences on the subject: and here let the reader recollect delays; I tried a single acre on my glebe, in which the sowing was posterior to the middle of March, and the product was a bushel. “Then I returned and saw vanity under the sun.”

About the 20th of February (says the farmer) I commenced sowing, which was continued as circumstances permitted till the middle of March, and in that time one hundred and forty acres were sown, besides ten acres afterwards ploughed down. The soil of the greatest part of the land thus sown, was a deep loam incumbent upon clay, and the remainder was a lighter loam upon a gravelly bottom. Thirty acres had been summer fallowed, limed, and dunged, the preceding year. Ninety-five acres were after a crop of drilled beans, which had been completely horse-hoed. Fourteen acres had been occupied by turnips and potatoes, both drilled and horse-hoed; and six acres had borne summer tares. None of the fields had received more than one ploughing after the preceding crop was removed, except those under summer fallow, which had seven

ploughings, and were manured with fourteen double horse cart-loads of dung, and 300 bushels of shell lime per acre.

The kind of wheat sown, was principally the Essex white and Egyptian red, which in shape of head and size of grain, are nearly similar. Some of the white wheat was of the Kentish variety, which from being long sown upon the farm, was much blended with red wheat. The crop upon the heavy loams was with a few trifling exceptions uniformly good. The light loam was much hurt by the growth of yellow weeds, which last year prevailed upon such soils in an uncommon degree. The whole was ready for the sickle about the first week in September, and was cut from the 3d to the 12th of that month.

From the small quantity yet threshed the produce cannot be exactly ascertained, but from trials which have been made, it is supposed that the fields sown after the summer fallow, will yield 40 bushels per acre, those sown after beans 36 bushels, and those after tares, potatoes, and turnips, 24 bushels. The last being upon a light loam, was much injured by the draught and yellow weeds, while the deep loam was rather benefitted by the dry weather.

The weight of grain already threshed, is nearly 62lb. per Winchester bushel.

The inferences which may be drawn from the above experiment are,

1st. That wheat may be sown with advantage in the spring months, till the middle of March, if the weather be then dry, the land in good condition, and the succeeding summer moderately dry.

2dly. That under the above circumstances the period of the harvest is not retarded above ten days by the late sowing, especially in favourable seasons.

3dly. That the grain produced from spring crops of wheat is equal to that sown in the autumn and winter months.

I am, Sir, Your's, &c

Jan. 20, 1804.

SACERDOS.

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## ON THE AGRICULTURE OF THE COUNTY OF NORFOLK.

*To the Editor of the Agricultural Magazine.*

SIR,

YOU have so many old established correspondents in the county which is the subject of this paper, that it is with much diffidence I submit my observations to their criticisms: my object however has uniformly been to invite the attention of those whose local knowledge of the subject

I discuss enables them to detect my errors, and on the present occasion I would not admit the affectation or even the reality of modesty and reserve to supersede this desire.

In a preceding paper, addressing myself to *Agricola Norfolciensis*, I have asserted, that when in the course of my review of the agriculture of the several counties, I came to consider the districts where his happy lot had placed him, I should expose a view of the highest improvements in rustic occupation. How far I was justifiable in this remark will appear in the following pages.

I have always objected to the customary forms of discussion on provincial agriculture, from the pen of Mr. Young, and of many other intelligent men, because they have blended the enquiries of the politician and the biographer, with the hardy business of the field. My object in these communications, is neither to dictate systems of legislation, or to swell the pride of manorial lords; but simply to represent the state in which nature appears, and the expedients that have been employed to accelerate her benevolent purposes.

Within the period of much less than a hundred years, Norfolk was a wild, bleak, and unproductive country. The greater portion of it consisted of a succession of rabbit warrens and sheep walks, and the flocks were composed of a race as hardy and active, and as natural to the soil, as the little inmates of the covert. The improvement began with folding, proceeded to marling, and has been conducted to its highest state, by the turnip and clover culture. We now find it so essentially to contribute to the public subsistence, that the sea ports of Norfolk export as much corn as all the rest of the island, and deducting the quantity sent through that medium grown in the neighbouring counties, the produce exported from the soil of the province, is estimated at 900,000*l*. The animal produce is equally astonishing, twenty thousand head of fat bullocks, and thirty thousand head of sheep, from these districts are annually sent for the London markets.

The length of the county is about 59 miles, the breadth 38, but the content in square miles is only 1,710, or 1,094,400 statute acres, which are thus applied

	ACRES.
The scite of the towns	1,500
Public and private roads	16,416
Lakes and rivers	2,000
Swamps	1,500
Neglected commons	80,000
Wool and plantations	10,000
Arable land estimated at two thirds of the county	729,600

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841,016



	Brought over	841,016
Meadows, parks, and upland pasture	-	126,692
Marsh lands	-	63,346
Warrens and sheep walks	-	63,346

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ACRES. 1,094,400

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The population of the county is stated to be 220,000.

The surface of the whole country is level, excepting near Norwich, and on the coast approaching Sherringham and Cromer.

Good roads are here among the natural advantages, although in other counties to be placed with the artificial, where their condition depends upon constant and laborious exertion. Another natural advantage is the excellent manure with which it abounds in its extensive strata of marle. Of this Mr. Marshall distinguishes two kinds. Of the white 12 cart loads to the acre will convert the unfriendly soil into a productive state, and will improve it for thirty years. After that period, half the quantity may be applied again, mixed with maiden earth, with surprising effect. I must not omit to notice the prodigious benefit from the marine and internal navigation. The county has eighty miles of sea coast, or nearly half its circumference. The great Ouse is navigable for twenty miles in a south direction through the eastern part, and then preserves the communication with seven of the midland counties. Besides this river, it has the Little Ouse, the Wavenny, the Yare, the Bure, &c. so that a water connection is established resembling that in many parts of the Netherlands. To the north, and north-east of Norwich, are the most abundant districts which are of a sandy loam. To the south and south-east is clay with springs. To the west and north-west of the city, the land is light, and is inferior to the two former, but is adapted to the fold, and here are situated the vast estates of Holcham, Houghton, and Rainham. To the south-west, the county is composed of a blowing sand, on which Rabbit warrens are most advantageous. In marsh land the soil is a rich ouse, supplied from the bed of the adjacent sea. The north of this district is very productive, and the south would be so, if the draining system were adopted extensively, and we hope the contests in the neighbourhoods of Lynn on this subject, will happily terminate in such an improvement.

Norfolk has little or no wood-land. Sheep hurdles, and materials for thatching are the utmost the farmer expects or requires. There is an extensive marsh expanding over the country between Norwich and Yarmouth, which in winter is in a state of inundation.

In a country like this, so celebrated for its cultivation, I am ashamed to speak of the commons. Those in the neighbourhood of Wymondham and Attleburg, have some of the finest land in the whole county, and are suited to any purpose. Of the 80,000 acres assigned to this division, three-fourths is capable of being applied very valuably, and would give Mr. Young and many other legislative farmers, a fair opportunity on which to display their political erudition: as however I have neither studied ethics or jurisprudence, I cannot enter into such disquisitions.

The course of cropping in this department of the kingdom deserves peculiar attention, because whether it respects the condition of the leases, or the election of the farmers, it is governed by some of those sound principles which the naturalist must always approve. The leases generally require the following rotation,

- |                         |  |  |
|-------------------------|--|--|
| 1. Wheat                |  | 4. Barley or Oats with seeds,                |
| 2. Barley without seeds |  | 5. Clover mowed                              |
| 3. Turnips              |  | 6. Clover grazed and broken up at Midsummer. |

When you apply the botanic maxims, founded on chemical analysis in some of your papers, the succession of barley after wheat will not be without objection. The tenant is not perfectly satisfied with this course, but what he complains of has no connection with the principles I just adverted to; he wishes entirely to get rid of the continuation of the clover a second year, and to return to wheat after a fifth variation. Your readers will immediately perceive, that this course of crops thus legally enjoined will exclude vetches, saintfoin, and a variety of means of incidental accommodation both to the farmer and his land, which the circumstances of the season would frequently justify. In some of the most fertile parts of the county they are capable of supporting the rotation of

- |            |  |            |
|------------|--|------------|
| 1. Wheat   |  | 3. Barley  |
| 2. Turnips |  | 4. Clover. |

This is adopted from the practice of the Flemish farmers, who have the happiness to cultivate some of the most luxuriant districts of Europe, and who deem it a sort of justice to the animal creation, to assign alternate crops to man and beast. But these natural rights I must leave to Mr. A. Young and his coadjutors, and conclude this division, not with discussions *de jure animalium*, but simply with recommending to the Norfolk farmers, the introduction of buck wheat on their soil.

The mode of ploughing here deserves particular attention, but the merit attributed to that here adopted, is somewhat too extravagant, because the nature of the soil enables the

farmer to conduct the operation with great correctness and facility. Two horses with the swing plough perform in a day's work a statute acre, and in seed time, perhaps half as much more. It is usual in many counties for the horses to work seven hours in summer, and eight in winter, without returning to the stable. The practice here will give the ploughman a shorter time at the publichouse, but will be more beneficial to his cattle. He works eight hours in winter, and ten in summer, but his horses are brought home to receive the refreshment nature requires under the long and painful exertion to which they are exposed. I confess myself not to be a mere traveller, I have, it is true, visited many of the southern, and some of the northern states of Europe, I have also spent no small portion of my time in the provinces of my own country, and I wish to know in the character of a professed farmer which I have a right to assume, whether P. J. or Agricola or Norfolciensis, whose judgment I respect, approve of the shallow ploughing so generally prevalent in the county in which they reside. If they contend that by deeper ploughings they lose their manure, and that fewer seeds of noxious plants undergo the process of vegetation by this method, it will be my endeavour to shew that the expedient is a shallow one in more respects than one, and cannot be vindicated on the principles of scientific agriculture.

The method of sowing in this county is by the drill, by dibbling, and in the broad cast way. From the frequent practice, dibbling is performed at a cheaper rate here than elsewhere, the expence not being more than half a guinea an acre: and I believe the farmers are so sensible here of the inconvenience of delay, that in their wheat sowing<sup>1</sup> they attend to the great maxim suggested by nature herself, to deposit the seed in the earth as nearly as possible at the time it falls from the receptacle assigned to it.

In this county, and in this county only, fallowing is entirely abandoned. The absurdity of fallowing is borrowed from the weakness of human powers which require the alternation of activity and sleep. Nature is omnipotent, she never requires rest, and if she be not permitted to produce corn from her prolific habit, she will be constantly ingendering weeds, so that fallowing correctly considered, is nothing but a painful and laborious conflict between the farmer and this vegetable poison.

I have already alluded to the Turnip culture, as one of the great sources of the improvement of this county. It will be new to some of your readers, that this branch of farming to which we are so much indebted, was imported from one of the most barren inhospitable, and melancholy districts in Europe, I mean Hanover, the political revolutions of which

will not escape the attention of Mr. Young, but on which I shall not presume to make a single observation. Turnips, previously to the reign of George I. were a mere article of particular produce; but some courtiers in the suite of that Prince, had the good sense to discover its advantage, and cultivate it on a more extensive scale; and the first attempts were made by their recommendation in the county of Norfolk. It is now generally adopted, and an acre of good ground will produce 30 or 40 three-horse loads, which we are told are competent to fatten a Scotch bullock, or eight sheep.

In these dissertations on county agriculture, I shall in my way have occasion to remark on the practice of some individuals, fond of experiments whom we are to consider throughout the kingdom as the great patrons of Agriculture. It is true I shall not be fond of introducing his Grace, or my Lord Marquis, with whom I partook of a John Dory, or cracked a bottle of excellent champagne; but Johnny Noakes, or Tommy Styles shall not forfeit my respects if they be intelligent farmers, even though they be distinguished by no titles of honour. Mr. *Styleman*, of Snettisham, has a peculiar mode in the cultivation of turnips that at present will receive the attention of the curious, and hereafter will probably deserve the regard of the public. He employs rape-cake reduced to powder by women with hand-mills, in the quantity of 5 Cwt. to an acre, which hitherto has never cost more than 25s. This pulverized manure, he introduces with the assistance of Cooke's Drill, into the channels where he had before deposited the seed.

The great excellence of the management of turnips in this county, is in the hoeing: this never is performed less than twice; it is done with great skill and care, even by the boys of the county, and the price is 6s. per acre. The black canker to which this vegetable is subject, is obstructed in its progress two ways. either by ducks, or by employing two persons to draw a rope over the ridges. Besides these, the usual means by hand are sometimes employed. Where the land is poor, they draw and feed the ridges alternately, and the barley after turnips, is generally upon the second ploughing.

After what I have said of the husbandry of this county, if I assert, that the average crops in the most exuberant part of it, such as Marshland and the Flegg hundreds, ascend to 6 quarters of wheat, and 10 of oats, I shall not astonish your correspondents. In the light lands they are contented with 2 and 3 quarters.

In Marshland we see rape, and in Outwell and Upwell, hemp and flax. The crops of the former are frequently 45 stone, of the latter, 40 stone.

*Ag. Mag. Vol. 10.*

O

In a preceding part of this review, I have alluded to four different kinds of soil, besides the Marshland hundred, which rents from 20s. to 30s. The first of those divisions may be estimated from 15s. to 20s. per acre, the second from 14s. to 18s. the third from 8s. to 14s. and the fourth from 4s. to 12s. The average of the whole county, has, I think, been estimated under its real rental, at 14s. per acre.

While I am mentioning the perfections in the management of this province, my partiality must not induce me to pass over the defects.

Instead of stacking according to the excellent method of Staddles, by which the corn is preserved sweeter and better than by any other expedient, it is too much the custom to erect large and expensive barns, so that a farm house and its tenements, resemble a manufacturing town, and the continual action and reaction of a multiplicity of flails, seem to confirm the conjecture in the mind of the traveller. They have, however, a valuable expedient for roofing their edifices, by the sea or marsh reed, which is executed at 21s. the square, and is twice as durable as tiling.

With respect to the cattle, and some other interesting particulars, I must postpone my observations, however reluctantly, to another opportunity, having already extended this article beyond the limit you usually prescribe to your correspondents. In the mean time, that your readers may not be grievously disappointed, I take the liberty of anticipating that I shall give them no details in imitation of modern Annalists, from the opinions of Right Reverend Bishops, on the qualities of tithe pigs, or from learned Judges, on the pinguefaction of green geese.

I am, Sir, your's, &c.

CHOROGRAPHUS.

Feb. 4, 1804.

## ON THE CULTURE OF WELD.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N a late number of your work, I have seen some account of Kentish farming, on which, at present, I shall make no observation, excepting that the writer has excluded Weld, or Wold, the *Roseda Luteosa* of *Linnaeus*, which has been more abundantly cultivated in that county than in any other, and should not have escaped the attention of your correspondent.

It deserves peculiarly to be recommended to general regard, because, like some other valuable plants, it will succeed tolerably on barren ground, and because it may be sown at a very

small expence, a gallon of seed being sufficient for an acre. We boast of England as of a garden, where nature is displayed in all her luxuriance, dressed by the hands of art and industry. But do we recollect, that nearly one third of the British Island is in a state of waste, or, as our neighbours term it, *en friche*, merely because we do not avail ourselves of the discoveries of the naturalist, for it is an acknowledged truth, that there is no species of soil which is not adapted to some kind of produce, and that will not repay the labours of the cultivator in our favoured climate.

Cultivation of the rudest character supplies the soil for future growth, so that the inhospitable sands become by skill and attention, a rich bed from which the wants of mankind may be supplied.

From these views, I have noticed this plant of Kentish growth.

M. D'Ambourney has favoured us with a particular account of the way in which it is managed in the neighbourhood of Rouen, but by looking a little back into the history of Agriculture, I have found it well understood by our own writers. I do hope that some of you, men of Kent, who have been in old times so famous in the field of battle, will shew that they can equally acquit themselves in the field of industry, and give us some recent experiments on this kind of produce.

The ground should be ploughed and harrowed fine, and in the month of August the seed should be sown in the proportion of a gallon to an acre. In about two months the plants will come up so as to be distinguished from weeds; and should be hoed like turnips, leaving them at about six inches distance. If this hoeing be performed in dry weather, the plants will be free from weeds till the Spring: in March they should be hoed again; and if weeds appear, a third time, about the beginning of May. The best time to pull the Weld for use is when it begins to flower, though most people stay till the seeds are ripe, being unwilling to lose the seeds: but Mr Miller advises to sow a small piece of land to remain for the produce of new seeds. By drawing off the crop early, as towards the latter end of June the ground may be sown with wheat the same season; and the plants at this time will be in the greatest vigour, and afford a greater quantity of the dye.

When the plants are pulled, they may be set up in small hand-fulls to dry in the field, and when dry enough, tied up in bundles and housed; care must be taken to house them loosely, that the air may pass between them to prevent their fermenting. That which is left for seed should be pulled as

soon as the seeds are ripe, and set up to dry, and then beat out for use; for if the plants are left too long, the seeds will scatter.

It is a particular recommendation, that the Weld which grows in sandy soils and other poor ground, is not apt to be greasy and too full of stalk, but is of a much better quality, although less in quantity, than that which is produced on rich ground.

As soon as the plant has been pulled, sheep may be advantageously turned upon the land to eat up the grass which may have grown with it. If the land be light, and destined for Spring corn, turnips may be sown upon the first ploughing after the Weld, which will have time to grow large enough to be drawn before the ploughing for oats, &c.

I just alluded to the object for which this plant is cultivated, viz. its utility in dying. Its connection with the trade and manufactures of this country, among other pressing motives, makes me seriously lament the neglect into which it has fallen, and as my acquaintance with this plant arose from the concerns I have of a commercial nature, in my next paper I shall take the liberty of giving some account of its application in the modern practice of dying.\*

I am, Sir,

Your's, &c.

*Dyer's Lane End, Near Halifax,*  
*Jan. 5, 1804.*

J. K.

\* We feel ourselves much obliged to J. K. for his communication on the culture of Weld, and we sincerely hope with him, that it will induce our Kentish correspondents to detail some actual experiments recently made on the plant. We find ourselves, however, reluctantly under the necessity of reminding J. K. that the nature of our undertaking will not admit the insertion of the letter with which he proposes to favour us, explanatory of the uses of Weld in the arts. While we admit the importance of the subject, and while we acknowledge his competence to do justice to it, we must adhere to the rule we have prescribed to ourselves, of excluding from our papers every thing unconnected with the immediate design of the publication.

E.

## WOOD FOR BUILDING; AND OTHER PURPOSES.

*To the Editor of the Agricultural Magazine.*

SIR,

I Saw in your last Vol. page 271, under the signature of Senex, a minute account of a species of plaster in imitation of Portland stone, composed of expensive ingredients; and page 325 of the same volume, you, Mr. Editor, have favoured us in a long note, with an ingenious chemical disquisition on litharge of gold, which is one of the articles of this commixture. It is true, Sir, you have done this with some

apology at the particular request of one of your correspondents, but perhaps it would have been better to have excluded such a learned analysis from your work, and to have gratified your enquiring friend by a private communication.\*

Whatever specimens of ornamental architecture Senex may find in the country to amuse his imagination, the convenience and stability of by far the greater part of rustic edifices, depends upon the soundness and quality of the timber with which they are constructed; and I trust two or three observations on the comparative durability of the different species of wood, will at least be as consistent with the nature of your work, as the scientific examination of Litharge of gold, and fanciful descriptions from the school of Vignola.

A celebrated architect of Edinburg, discovered that green fir timber may be rendered fit for immediate use, by soaking the planks a few days in lime water, and he was led to this important fact, by observing, that Scotch fir timber in ancient buildings where it was connected with lime and kept dry, was sound and untouched by the worm, and was in a much better state than when first employed.

It is, Mr. Editor, much the fashion of our time to form extensive plantations, and I wish it were as much à-la-mode to attend to the future interest of the country, by planting principally that species of growth which is most adapted to the purposes of public and private utility. We are, Sir, in a hurry with the laws of nature, and because we cannot extend the spear of Ithuriel to make her submit to our designs, we sacrifice every thing valuable, to quickness of growth. To those whose patience is exhausted by a few years delay, it may be useful to remark, that the best of the quick growers are the chesnut, and the cedar of Lebanon; but some satisfactory information is obtained on twelve different kinds of wood when exposed to the injuries of the weather, by the following experiment of a patriotic nobleman.

Three posts forming two sides of a quadrangle in his park, were fixed in the earth upon a rising ground. Into these posts were morticed the planks of twelve different kinds of trees, six of which had the south and north aspect, the others the east and west. The planks were cut out  $1\frac{1}{2}$  inch thick, from trees of thirty years growth.

They were exposed to all the inclemencies of the atmosphere for a period of ten years, they were then examined, and the following report was made of their condition. The Abele

\* The writer of these observations, is not perhaps, aware that the private correspondence he refers to, would be extremely inconvenient in an undertaking of this public nature, and would require the sacrifice of a portion of time incompatible with the prosecution of the work. E.



was sound, and also the beech, the cedar, and the chesnut; the two latter without the smallest appearance of decay. The birch and the pineaster were quite rotten; the Scotch fir and the sycamore were much decayed; the silver fir and the walnut were in decay, yet the spruce fir was sound. Of the larch, the heart was sound, but the sap quite decayed.

Those only are able to estimate the value of such experiments, who know the vague and idle observations directed to this subject, and who are acquainted with some of the serious misfortunes which have resulted from its neglect.

I am, Sir, your's, &c.

London, Jan. 3, 1804.

ARBUSTIVUS.

### CHEAP IMPLEMENTS.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N one of your late communications, it is noticed that the expence of the modern implements in agriculture is a great impediment to their introduction for the use of the ordinary farmer. It might have been added, that the weight of iron and timber with which they are loaded, renders it impossible under the common establishment, that they should be extensively applied to the business of the field.

A witty correspondent in one of your last numbers, has spoken with a mixture of contempt and pleasantry of an agricultural spectacle in France, where the plough is forced along the furrow with a lean cow, an ass, and a goat.\*

Agricola Northumbriensis, who has amused us with the remark, resides, I believe, in the neighbourhood of Alnwick Castle, among the opulent farmers, tenants of the Duke of that county; he seems likewise acquainted with the systems adopted in Norfolk, Suffolk, Hertfordshire, and other provinces, where the yeomanry of England are lost in a sort of baronial dignity and importance. He probably, therefore, forgets the little peasantry of Ireland, Wales, and Scotland, and in many of the poorer counties of England, where their whole subsistence depends upon the rigid economy with which they conduct their affairs, in the narrow circuit to which they are confined: even while the crazy cart that conveys their produce to market is engaged in that duty, the labours of the farm are suspended, and the favourable season is sometimes irretrievably lost.

What I have to intimate, will not appear to these large engrossers of English territory to deserve the smallest attention;

\* See the letter of Agricola Northumbriensis, Vol. 9, page 244.

but if your correspondent who calls himself "A Little Farmer," and a number of others, who perhaps, more legitimately devolve under that class, think my occasional letters to you, Sir, worthy their notice, I shall be abundantly repaid for the application of my time, and of my humble talents.

The purpose of this communication, is to impart to your readers the account of an implement which I had an opportunity of seeing in a late visit to our capital of Scotland. It is extremely cheap, whether you consider the materials of which it is composed, the manner in which they are connected; or the little strength required in its employment. It is a cart used in the neighbourhood of that city, and it is thus described.

It consists of a pair of shafts made of fir, joined together by five bars of ash or elm, with two deals laid upon them; and a small piece of wood below the cross bars, resting upon the axle, for strengthening the bars. The whole of this is so light that a man might take it upon his shoulder, and so strong as to last several years in constant employment. The first cost is from 12s. to 15s. independently of the axle and wheels.

This simple carriage is so contrived as to be yoked with the greatest ease; for that purpose, a pair of round rings are fixed by short chains to the collar of the horse, which slip over the end of the shafts with the utmost facility, and are there fixed by a pin put into a hole. Breeching, because troublesome for yoking and unyoking, is seldom used.

I am, Sir, your's, &c.

Lanerk, Jan. 5, 1804.

A CALEDONIAN.

### DISORDERS OF SHEEP.

*To the Editor of the Agricultural Magazine.*

SIR,

IT appears to me that the following observations on the diseases to which sheep are subject will be acceptable to some of your readers, who in many parts of the kingdom must be largely concerned in that animal.

The disorders to which sheep are exposed, are, the gall, the red-water, and being paterish. The gall is a kind of purging, which generally continues till they die, and is occasioned by feeding on land lately folded in wet weather, such as rape, turnips, &c. The red-water is a dropsy, and proceeds from the sheep being let out of the fold when the land is covered with hoar frost. A paterish sheep appears totally deprived of its senses, and is continually turning round, instead of moving forward. This disorder is occasioned by a bladder of water that surrounds the brain, for which there is no remedy; and may serve as some sort of reply, however unsatisfactory, to your

correspondent, Mr. Dowlen, of Falmer, near Lewis. Indeed, the very nature and seat of the complaint, must suggest to every juvenile student in the animal œconomy, that it is beyond the reach of the healing art to provide a cure for this disorder.

The rot is common to the South Down sheep, but it is never caught upon the hills; it is by the sheep being put out in the winter to the Weald, or by being turned out into marshes to fat. Indeed, it appears, that the cause of almost every disorder is to be attributed to feeding the sheep on wet lands, and in moist seasons; for they break chiefly in the winter and spring months, which is an additional reason, as they are exposed to it in the wettest seasons of the year. Hampshire and South Down sheep are equally subject to the *scab*, caused by their being overheated. In its effects it is similar to the itch: the remedy for which is, wild vine root, tobacco, and brimstone, boiled in brine, for the space of fifteen minutes, strained off and kept for use; then it is poured on the part affected, the wool having been first separated. Or boil half a pound of tobacco in two gallons of brine, till it is half wasted, then stir in a quarter of a drachm of sublimate, and the same quantity of precipitate; half an ounce of verdigrease powder; two ounces of sulphur, and one ounce of allum. Another disorder these sheep are subject to (in common with various breeds) is the foot rot. In this last, the limb must be dressed with hot oils (oil of vitriol and spirit of turpentine) having first cut away the root of the disorder; or one ounce of sugar of lead, one ounce of Roman vitriol, one ounce of verdigrease, half a pint of turpentine, all mixed together. Let the hoof be cut away to the bottom of the complaint, and having well shook together the contents, apply the medicine.

These observations appear to me to be the general result of the opinions of the most intelligent men on this subject, where the flock is a material part of the farming system; as such, I submit them to the attention of Mr. Dowlen and others, whose interests are largely concerned in this department of agriculture.

I am, yours, &c.

Brighthelmstone, Feb. 10, 1804.

R. S.

## ON A GOTHIC RUIN, AND ON THE AGRICULTURE OF SOUTH WALES.

SIR,

HAVING lately had occasion to pass from Bristol, through Monmouthshire and a part of South Wales, in my way I visited Llanthony Abby, which one of your correspondents has mentioned in a former number of your useful and enter-

training publication, and which he regrets being now in the hands of a gentleman who seems inclined to restore it to its pristine state. Surely, Sir, your correspondent must have a strange taste, for if he is fond of Gothick beauties, I should imagine, a building of this kind is more to be admired in a perfect, than in a delapidated state; and, that it is possible to restore such antiques in a great measure to their original beauty, I shall instance Hereford Cathedral, renovated by the ingenious Mr. Wyatt. But these antiquarians are an enthusiastic race, and even a world in order would have no chance to please them, like a world in ruins; like children, they feel themselves pleased with what they cannot describe, and like the fabricators of our modern novels and Ottoranto Castle builders, nothing can be too wild, ruinous, or, as they stile it, romantic, for them. For my part, I like to see order restored, and have often regretted, when I have seen buildings of this kind suffered to decay, and sincerely wish the honourable owner success in his repair.

As a real lover of Agriculture, I am much pleased to find a spirit of emulation and enterprise extend itself into parts so remote from the capital; and was surprised to find, even in Radnorshire, the most hilly, mountainous, and barren part, I think, of all South Wales, a small farm, cultivated in rather a scientific way, and with articles uncommon in that country; particularly two large fields of the *Lecteola* or *Weld*, of which I believe but little is grown in any part of England, except Kent; and though an article of essential use to the dyer, we are, I believe, generally obliged to import considerable quantities from France annually. The cultivator, to whom I sincerely wish every success, seems to be a sensible, intelligent man, and worthy of a more comfortable situation, told me he had met with great difficulties, and had many obstacles to encounter, owing to the strong prejudices of the country people around him, who had reported him as almost a madman, and a grower of weeds; and that he had absolutely been applied to, to know whether he would purchase nettle and thistle seeds, &c. Such is the stupidity of some people, even in this enlightened age!! I apprehend the neighbouring clothing counties of Gloster, &c. may soon find the benefit of being able to procure the above article at a cheaper rate than sending to London for it, as I am informed they are now obliged to do. The same person had also canary, which he informed me ripens well there, carraways, turnips of every kind, the papaver alb, and is about attempting to procure tounsol. Hops seem tolerably well cultivated in many places, and I am told, pay well; also the drum-head cabbages for cattle, but I have no where seen any that are very large; either they have not the true sort, except the person above

mentioned, or else they know not yet how to manage them. If these remarks are thought worthy your notice, you may occasionally receive others from your constant customer,

VIRGILIUS.

### EMBANKMENTS.

*To the Editor of the Agricultural Magazine.*

SIR,

I Have in my nature more of the tortoise than of the Swallow, and am inclined to address your correspondent, Chorographus, in the language of the latter.

“ Lord ! What a deal of needless changing ;”

“ For ever hurrying, bustling, changing,

“ As if it were your life to save.

“ Why need you visit foreign nations ?

“ Rather like me, and some of your relations.

“ Take out a pleasant half year’s nap,

“ Secure from trouble and mishap.”

If, Sir, you can condescend to listen to a sedentary correspondent, who has rather devoted his attention to insulated than to general subjects, I am willing to enrol myself in the list of contributors to your work, and whenever the fugitive friend I have mentioned shall happen to skim over me, and make observations on my inclosures, I shall not fail to criticize on the remarks he shall make in his rapid progress.

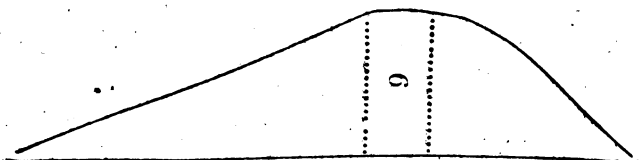
He has told you, that a great proportion of the coast of England is flat, and subject to frequent inundation. I do not fly over the ground as he does, and cannot, therefore, report on the evidence of my own senses ; his description, however, seems to be tolerably accurate, and I ascribe to him no small merit for his birds-eye view of the superficies of these Islands, as far as I have been able to compare it with other accounts on the same subject.

The most productive pastures in England are protected by embankments ; the intention of this paper is to give an account of a defence of this kind, constructed in a part of the country peculiarly liable to marine devastation ; and if you should insert this communication, I will send you another on the management of wood land, in Kent, where the restless swallow, to which I alluded, did not make his perch, for he has not favoured us with the account of a single spray from those districts.

The embankment to which I allude, has gained a very valuable tract of 100 acres, at the expence only of 27s. per rod

on the side liable to inundation, and as the increasing produce of the country may, for ought I know, depend as much upon judicious management in this respect, as in any other. I will subjoin an account of this strong wall near Ebbs-Fleet in the county of Kent, which may likewise not have received the regard of Chorographus.

	FEET.
Perpendicular height of the wall	9
Width at bottom	36
Top	3
The face of the wall to the sea, forms an angle whose base is	22
Perpendicular height	9
Back side forms an angle of which the base is	11
Perpendicular height of the back side	9



That now described is against the sea, in the deeper water. A lesser wall is made nearer the shore, the perpendicular height of which is only seven feet, and the other parts in proportion to this diminution in the height. The form is precisely the same as that of the former.

Your intelligent correspondent, who has given you an account of the agriculture of the Isle of Thanet, cannot be unacquainted with this contrivance, in the immediate district of his survey.

I am, &c.

TOPOGRAPHUS.

#### VETERINARY ART. . LETTER IV.

### ON THE APPENDAGES OF BONE, AND ON THE MUSCLES OF THE HORSE.

*To the Editor of the Agricultural Magazine.*

SIR,

THE present paper respects the appendages of bone in general, with the means of cure in the diseases to which they are subject. These appendages are the periostium, the medulla, the cartilages, ligaments, and the synovia.

#### CARTILAGES.

These are the mean between the hardness of bone and the softness of the muscular parts. They have no cavities for marrow, nor any membranes or nerves for sensation. Their use is to prevent the bones from being wounded by friction, to join

them together, and to contribute to the formation of the nose, ears, windpipe, eye-lids, &c. The cartilages which belong to the bones, differ from each other in size, figure, situation, and use, and may be divided into two general heads; those which are immediately, and those which are intermediately connected with the bones.

It is commonly supposed, that all bones, in their original, are only cartilages, and arrive at the consistence of bone, by gradual induration. In many cases, the cartilages become ossified; so near is the relation between these two substances. Some years ago, at Milau, a malefactor was saved from the rope of the hangman by the ossification of the windpipe.

#### LIGAMENTS.

The ligaments are next to bone, and cartilage in the degree of rigidity, dryness, insensibility, and induration; they are white, tough, solid, and inflexible parts, which inclose and unite the joints of the body. The ligament has not any sensibility, lest it should suffer from the action of the bones. Its principal use is, to strengthen the joints, and to prevent their dislocation; and they are especially important to the constitution of the frame, where to assist the effect no articulation is provided. The ligament also serves as a covering for the tendons, to separate them from the muscles, and to suspend the entrails, lest they should be too much depressed.

#### SYNOVIA.

This is a term used for what is vulgarly called the joint oil; it is of a mucilaginous nature, and is secreted by the inner surface of the capsular or hollow ligaments, which, to perform that office, are full of vessels. Without its assistance, the friction of the bones would be considerable, but by this unctuous provision they slide easily over each other. The Synovia is likewise distributed in various parts by the *bursæ mucosæ*.

There are no wounds which deserve more care, and which have received less attention, than those of the joints, and with these our present subject is principally concerned. Whenever a wound penetrates the cavity of a joint, it must be immediately closed; this is most successfully effected by firing the orifice with a budding iron, which will occasion the aperture to close, and the wound to heal; but the utmost care must be taken, that the external surface be only canterized, for if the inner be touched, the consequence would be a violent inflammation, and a disease, probably more fatal than what the instrument was designed to remove.

## BREAKING DOWN.

This is the vulgar distinction assigned to the rupture of the suspensory ligaments. The limb, in such cases, is extremely weak, and the fetlock is almost upon the ground. Farriers suppose, in this case, that a rupture of the flexor tendon has taken place; this, however, is rarely the situation, and if the horse can bend his foot when he lifts it, no such rupture can have been occasioned. It is one of the most desperate cases, and a perfect cure is perhaps impossible. Fomentations should be employed to lessen the inflammation, and if the heel be raised, to relax the parts, nature will throw out a substance to connect the divided ends of the ligament, and the powers of the limb will be partially restored. If the flexor tendon be broken, it will be expedient to sling the animal, and to bend the whole limb, from the elbow, downwards, to facilitate the connection of the ruptured parts; and during the process, the means we have noticed should be employed to moderate the inflammation.

## STRAIN IN THE WHIRLBONE.

This is the extension of the articulations of the femur with the pelvis, and occurs when the thigh bone is pushed beyond its proper place by a blow, or some other violent action. All means must be taken, by patiently fomenting, to lessen inflammation, and the animal must be permitted to remain in a state of repose, until the unfavourable symptoms disappear. External applications are of very little use in these cases; the seat of the disease is beyond the reach of art, and time, or rather nature alone, can effect a cure.

## STRAIN OF THE STIFLE.

This is the case of the extension of the femur with the tibia. Either the muscles of the thigh or the ligaments of the patella and stifle, may, in this disorder be affected in a similar manner. The treatment so nearly resembles what we have just described, that no further explanation is necessary.

## WIND-GALLS, BOG, SPAVIN, THOROUGH-PIN, AND CAPULET.

All these are the cases of diseased enlargement of the bursæ mucosæ, or mucus bags, which are distributed about all the joints. The first is this enlargement at the pasterns; the second, third, and fourth, at the inside of the posterior part or point of the hock. These bursæ mucosæ, in some places, are very conspicuous, and especially those placed in the flexor tendons near the pasterns. Increased exertion, produces a more abundant secretion of this mucus, and hence wind-galls are almost always the consequence of oppressive



labour. While they are small, they are of no great moment, but when they become large, they produce bad effects from the unequal pressure they occasion.

The treatment in all these cases is much the same. A sweating blister is a very proper application, and pressure to promote absorption of the contents of the tumour may be occasioned by a bandage round the part, including a bolster to bear on the immediate seat of the disease. The cautery, applied with discretion, is the best means of preventing the return of these several maladies.

#### THE MYOLOGY OR MUSCULAR SYSTEM OF THE HORSE.

If the muscular fibres be divided by any act of violence, the pain is very considerable, because the sound part of the muscle is extended by the contraction of the divided part, and by the action of the corresponding muscles, which, in its diseased state it is less fitted to sustain. In consequence of such a wound, an aperture appears, and the use of the muscle is greatly impeded. If the muscle be wholly divided, its parts retreat very considerably, and the use is likely to be entirely lost.

In all muscular wounds, under the circumstances explained, an inflammation, more or less violent, is the consequence; therefore bleeding, cool diet, purging, and fomentation with warm water, should be resorted to. By these means, the inflammatory symptoms will abate, and then the tone of the part will frequently be restored by stimulants; and beer, vinegar, or verjuice, may be applied by a patient hand, to bathe them, or more effectually in the form of a poultice. If these expedients should be ineffectual, a blister may be employed; and if ultimately needful, the cautery.

#### TUMOURS OR SWELLINGS.

In the muscular parts, tumours or swellings are so frequent from blows and accidents, by the violence and indiscretion of the rider or driver, that I think it necessary to be a little more particular, not only in describing the nature and progress of the diseases which occasion them, but in giving some of the most simple, yet beneficial prescriptions admitted to the practice of the Veterinary School.

In the first place, those swellings which frequently take place after fevers, should not be hastily dispersed, lest the remains of the disorder, which is working itself off externally, should again strike internally, and be attended with fatal consequences. In such a case, the following fomentation may be applied every three hours in the day time; and a flannel dipped in the same preparation, should be bound on during

the night. The intention of this prescription is to keep the pores open, in order that the complaint may have a free egress.

R. Best vinegar a pint, spirit of vitriol and camphorated spirit of wine, of each four ounces.

Swellings are sometimes capable of being dissipated by the mere application of restringents, but if they proceed to maturation, it is in vain to attempt disappointing the means nature assigns to obtain a cure. We cannot too often remind our readers, that the only mode of effecting a cure, either in the human species or in brutes, is by assisting, not opposing, her operations. In the case we are now supporting of the formation of matter, suppurating poultices must be applied, and the following will frequently be successful, but it must be repeated night and morning.

R. Coarse bread, barley meal, and cammomile or elder flowers, each a handful; boil over the fire in a sufficient quantity of milk, into which stir about a third (of the whole quantity) of white-lily root, washed clean, and pounded to a paste; adding linseed and fenugreek (in powder) of each an ounce; stirring in, while hot, of turpentine, two ounces, and of lard four, laying it on moderately warm, and bandaging firm. To serve for two poultices.

After this has been used, the matter within the tumour will be discovered freely to move by imposing the finger; at this period the tumour must be opened so widely with a lancet, as to give the matter free discharge, and in order to admit the wound to be dressed to the bottom. It must now be dressed once or twice a day, with lint, spread with yellow basilican, melted down with a fifth part of the oil of turpentine. This should be carefully introduced to the bottom of the sore, which should then be filled up with the same ingredient. There will probably be a considerable discharge until a digestion is effected, which is the design of this preparation. After this has been successfully employed, the cure may be completed by lint, thickly spread with red precipitate ointment, introduced into the wound in the same way.

Sometimes the digestion very slowly takes effect, a thin hot watery liquid is emitted from the wound, which indicates a state that must be immediately counteracted. Over the dressing a strong-beer poultice must be applied, and continued until the matter become thick, and the wound florid.

Very frequently, by endeavouring to accelerate too precipitately the designs of nature, we occasion a luxuriance, vulgarly called proud flesh. All unctuous ointments are conducive to this, as they keep the fibres in a lax and supple condition; I will, therefore, subjoin to this paper a prescription,

which will countervail the pernicious consequences common to all digestives.

R. Yellow basilican eight ounces; red precipitate finely powdered, one ounce: mix them together cold with a knife or spatula.

I observe your intimation to me in your notice to your correspondents, and if you think the present paper too long, you may exclude any portion you please.

I am, Sir, your's, &c.

Westminster, Feb. 8, 1804.

VETERINARIUS.

## ON A SPECIES OF WHEAT NOT LIABLE TO THE SMUT.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N a work, professedly on foreign agriculture, I have met with the subsequent account of a peculiar species of wheat, but no reference is made where it may be obtained, and no series of experiments is given to ascertain, on the only satisfactory test, the beneficial property it is stated to possess.

Knowing the extensive circulation of your work amongst men of practical knowledge, I wish to be informed from any of them, if they have ever cultivated the peculiar grain alluded to; for if it be a fact, that such a species of wheat exists, it is idle and absurd to hunt through all the laboratories of the chemical art for lixivium, which shall contain the poisonous principle capable of extirpating the disease called Smut. In this disorder, the grains, instead of being supplied with their farinaceous and nutritious aliment, are full of a black and offensive powder.

It is said, that in Silesia the wheat may be procured; and the name Dumesnil Costé is subscribed to the assertion. Silesia is a country of nearly three thousand square miles extent, in some part of which, I am to suppose, this gentleman may have resided: so very vague is the account. The particulars are given in the following terms.

"Of all the fruits of the earth, wheat is certainly of the most consequence, I therefore think myself obliged to inform the public of a discovery I have made of a sort of wheat, the culture of which, it should seem, is proper to be recommended and encouraged.

"We know by experience, that wheats, like fruits, differ one from the other.

"The particular advantage of the sort I would now recommend, is, that it is not subject to the Smut; and this I am convinced of, from the experience I have had of its culture.

" This wheat is less subject to lodge ; the straw being full of pith, it yields to the blasts of wind, and rises again, elastic, like a reed.

" The Germans derive great advantage from this wheat ; they chop the straw, and feed their cattle with it in the winter.

" The benefit to be derived from this wheat, is still more considerable, in that it yields larger returns than the common wheat, it contains more flour, and makes very good bread ; though, I must confess, it eats a little dry and husky.

" This corn must be separated from the ear by striking handfuls of the sheaves against the belly of an empty cask, it being too tender to bear the strokes of the flail ; but as it parts easily from the straw, a great deal may in this manner be separated in a day.

" The method of cultivating it is as easy as can be wished : it must be sown early, in a rich soil well prepared ; and rather more seed should be allowed than when common wheat is sown."

Hoping that some of your Correspondents may be able to answer this enquiry,

I am, &c.

Lincoln, Jan. 13th, 1804.

P. Y.

## FALL OF RAIN IN A PART OF THE COUNTY OF LANCASTER, IN THE TWELVE PRECEDING MONTHS.

*To the Editor of the Agricultural Magazine.*

SIR,

SEVERAL of your papers have noticed the importance of ascertaining the quantity of rain which falls in the different seasons of the year, for the purposes of Agriculture, in this wet climate. Perhaps it is not of much less moment to determine the proportion of evaporation, that by deducting the one from the other, we may know pretty correctly the proportion that remains to assist, or to obstruct the purposes of vegetation.

From this view, I have inclosed, for the inspection of your correspondents, the following account of the depth of rain fallen in the vicinity of Liverpool, during the whole of the last year ; and I have likewise added the quantity of evaporation, from a vessel four inches in diameter, to which the solar beam had no access.

Wishing every success to your instructive publication,

I am, Sir, yours, &c.

Lancaster, Jan. 20th, 1804.

B. A.

*Ag. Mag. Vol. 10.*

Q

## FALL OF RAIN, IN 1803, NEAR LIVERPOOL.

Time.	Depth of Rain.	Evaporation.
	Inches.	Inches.
January.....	1,95.....	1,25
February.....	1,8 .....	1,4
March.....	1,25.....	1,6
April.....	1,75.....	2,4
May.....	1,7 .....	2,7
June.....	3,28.....	2,56
July.....	1,54.....	3,
August.....	1,88.....	2,88
September.....	1,60.....	2,55
October.....	,82.....	1,55
November.....	3,25.....	1,10
December.....	4,60.....	1,

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 Total Inches.....25,42

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 25,69

It may be useful to remark, for the sake of some of your readers, that the figures to the right of the commas, are decimals, and denote parts of an inch.

### ON THE MILDEW IN WHEAT, ATTRIBUTED TO A SINGULAR CAUSE, AND OTHER MATTERS,

*To the Editor of the Agricultural Magazine.*

SIR,

ON a further perusal of the New Farmer's Calendar, I acknowledge I felt somewhat displeased at the severity with which the author treats the petty prejudices and notions of our plain, honest fore-fathers, and their no less plain, honest descendants, on a variety of subjects connected with husbandry. Some of them, most assuredly, are nothing but the conceits of ignorance and superstition. Many are founded on observation and long experience. These latter, therefore, with all due submission to the triumphant superiority of Mr. Lawrence's discernment, I conceive to be entitled to a little more respect, and, in justice, to a little stricter investigation. At page 44, the author observes, "Mr. Marshall's grave account of the miraculous barberry-bush, of Norfolk," &c.; and follows up his observation with an hearty laugh at the idea of wheat being affected by such an innocent adversary.

I am not about to defend the idea, but merely request permission to relate the following fact, to which I myself was an eye-witness. Nor do I mention it as a rare instance, but as one of the very many cases which I hear related every day.

In the parish of Snoring-parva, in this county, a small field of wheat suffered last year very material injury, in common

with almost all the wheat in this angle of Norfolk, from a Blight or Mildew. As the inclosure lay inclining downwards to the road, every passenger noticed, very shortly before the commencement of harvest, amidst the general bad hue which the Mildew had dispersed over the whole field, one particular part, much more highly discoloured than the rest. This part resembled the tail of a comet, or radii, branching out from a center; and, as is usually observed, the deepest shade was at the nucleus, or center, of the radii, which proceeded from the hedge-row most distant from, and parallel to the road. Struck with this appearance, I entered the field, and examined the hedge-row; and at the point where the shade was blackest, and the straw most mildewed, even to rottenness, the owner pointed out to me a *Barberry Bush*.

Fearing a critique from Mr. Lawrence, I here close my narrative, without daring to attempt a comment on the fact, which I vouch to be truth: I shall only add, that there is not another Bush of the same species in or near the field; and that, contrary to Mr. Marshall's case, the direction of the blast appeared to be *from*, not *to*, the South-west.

I am happy, Mr. Editor, to see your Magazine so well supported by a respectable list of correspondents; but, as your readers wish to collect a little *information* for their eighteen pence, do pray Sir, just hint to my brothers of the plough, Northumbriensis and Meridionalis, that their oxen and horses are worked to the bone in the dreadful contest for superiority, and that it is high time to unyoke. Seriously, both parties have wasted their time and paper on much irrelevant matter, and, as might have been predicted at first, have left the subject where they found it. I do not censure the discussion of the question, for it is important: I would only restrain the disputants from wandering, and taking up too much of that room in your collection, which might be filled with more valuable matter.

I thank both A. C. p. 826, and Chorographus, for their *intention* of explaining what a Shim is; but the merely describing the hoe as a *broad share*, is to no purpose. Is the share a regular parallelogram, or triangular, like a turf-cutter? When Mr. Lester has completed and published his engravings of every useful implement, I hope to obtain much information. I hope such satyrists as Democritus will never deter Dr. Hunter, or any gentleman whose occupation is not professedly agricultural, from communicating to the world the results of useful experiments, the rational employment of their leisure hours; and I trust that the Doctor has the interest of agriculture too much at heart, to entertain the least displeasure at any of his productions on that subject being made more gene-

rally known, through the medium of your, or any other periodical publication.

Fakenham,

Feb. 13, 1804.

I am, Sir, yours, &c.

AGRICOLA NORFOLCIENSIS.

## ON THE FOOD OF PLANTS, IN ANSWER TO TYRO.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last volume, page 256, you have a short letter signed Tyro, in which he makes enquiry on what you, Mr. Editor, have called, the pabulum vegetativum, but to which I shall give the more intelligible name of, the Food of Plants. "I shall," says this writer, "be happy to see in your work, the elucidation of this difficult question, that while the chymist is analyzing every pebble he can procure from the summits of the Alps and Andes, we may learn that the most important uses to which his art can be applied are not neglected."

In order to ascertain this food, it will be right to attend both to the plant, and to the element by which it is surrounded. If vegetables be analyzed, they are found to contain much water and charcoal, some fat and essential oils, resins, gums, and vegetable acids: all which are reducible to water, pure air, inflammable air, and charcoal. A small proportion of fixed alkali is also found, some neutral salts, most commonly gypsum, tartar vitriolate, common salt, and salt of sylvius. In corn, and particularly wheat, phosphorated selenite is also discovered.

All terrene plants grow in a mixed earth moistened with rain and dew, and exposed to the atmosphere. If this earth be chemically examined, it will be found to consist of silicious, calcareous, and argillaceous particles; also of magnesia, in various proportions, a very considerable quantity of water, and some fixed air. The most fertile, also, contain a small proportion of oil, roots of decayed vegetables, a coaly substance arising from putrefaction, some traces of marine acid, and gypsum.

From this view it appears, that the only substances common to the growing vegetables and the soil, are water, coal, salts, and different species of earth. To these perhaps should be added fixed air.

Having attended to such points, we are prepared to enter on the main question: and here your correspondent is perfectly correct in attributing to Mr. Hassenfraz the discovery, that coal is an essential ingredient in the food of all vegetables. The importance of this invention is not that it amuses the imagination, and gratifies the curiosity of the profound

chemist: but that it enables us to ascertain the true fertilizing principle of manures, for hereby it is discovered whence the great utility of vegetable and animal manures that have undergone putrefaction. If the liquid that oozes from a dung-hill be examined, it is found to be of a blackish colour, and if subjected to evaporation, the greater part of the residuum consists of coal, and this is the true basis of its ameliorating powers. It is sufficiently known, that the greater the quantity of coal produced under this experiment, the more abundant the fertilizing principle; or in other words, the more is contained of that food which conduces to the health and vigour of vegetable existence.

Formerly, this fertilizing principle was supposed to reside principally in the saline and mucilaginous particles; but chemistry has discovered, that the quantity of these in fertile land is so small, that they could not contribute the thousandth part of the weight of any vegetables.

This discovery of coal as constituting vegetable nourishment, if new amongst theorists, is far from being so in practice. True it is, that practical farmers have not at all understood the rationale of the matter, but they have seen the astonishing effects of manures that have undergone the putrefactive process, and they have availed themselves of every means that occurred to them to accelerate it, and whether they attributed the advantageous result to the oleaginous, or to the carbonic product, is not very material.

It does not seem at all important so that coal is produced, what may be the substance exposed to putrefaction for that purpose. Even shavings of wood which certainly contain very little salt or mucilage, will answer the design. If left in a damp place for about a year, they begin to undergo the fermentative action, and when spread on the land become putrid, and are an excellent manure\*. In paring and burning which I have seen so warmly recommended in your papers, the oleagenous matter loses its characteristics, and is reduced to a mere coal, and hence the prodigious utility of this operation.

We have another proof of the great advantage of coal as a fertilizing principle on the examination of earth itself. Let a quantity of the soil be steeped in water; let this earth be taken from fields of different degrees of fertility, and it will be found, that the darker the colour of the water after this process, the better the quality of the land. Let the farmer have the patience to advance a little further, and to evaporate in a common pipkin the water so impregnated with the colouring matter, he will then find that the residuum is a coaly sub-

\* 14 Ann. Chy. 561



stance, and that the quantity produced is in proportion to the fecundity of the soil.

It is perhaps material to prevent a misunderstanding on the subject, to remind your readers, that however wholesome this food of plants may be discovered to be, it must be administered to them in a form which though correctly understood by nature, has been hitherto unknown to man. Coal cannot impart its beneficial effects but in proportion as it is capable of being dissolved. We know that it is dissolved in the putrefactive process, and that in this state, it is introduced into the absorbent vessels of plants, but the means of rendering it soluble by other expedients more rapidly is not ascertained.

I hope your correspondent Tyro will be satisfied with this explanation, at least I have endeavoured to make myself as intelligible as the nature of the subject would admit.

Warwick Lane,  
Feb. 12, 1804.

I am Sir, yours, &c.  
LUCAS MEDICUS,

## ON A COURSE OF CROPS.

*To the Editor of the Agricultural Magazine.*

SIR,

Feb. 15, 1804.

**H**AVING long understood that the Rev. Mr H. J. Close, either with the plough or the pen, was a labourer of deserved celebrity in the great cause of Agriculture, it is with some degree of diffidence that I now venture to assail the opinions he has advanced *on the course of crops best suited to the various species of soils*. Conceiving, however, that the table inserted at page 50 of your last Number, and its accompanying letter, signed T. T. are not thoroughly calculated to promote the best system of Husbandry, but on the contrary, that they will have some tendency to promote injurious practice, I beg leave to offer a few remarks on them for publication in your next Number. If your correspondent T. T. is correct, Mr. Close has recommended to the Board of Agriculture a course of crops, beginning with turnips or cabbage *on clay*.—That the latter may be raised in great quantities on this species of soil has, *according to the accounts of agriculturists in various parts of the country*, been pretty satisfactorily proved, and that by the application, or rather *misapplication* of great quantities of rich dung, good crops of turnips may be obtained on such land *in very favourable seasons*, I am not inclined to dispute; but that productive crops of corn can be raised *above one year in three or four*, after such management, is totally inconsistent with the observations I have been enabled to make in a pretty long course of minute attention to practical husbandry. In this part of the country, to fold sheep on such turnips, would be considered as a proof of

the derangement of the intellectual faculties; for instead of improving, they would be much worse; and in carrying the turnips from such grounds, even in the most advantageous modes, the soil is generally so cut up and poached, so saturated with, and retentive of moisture during autumn and winter, and so hard and cloddy in the spring, as to be rendered almost as unfit to produce a valuable crop of grain, as a barren moor. Upon clayey loams similar objections cannot be urged against the cultivation of turnips, but instead of the succeeding crops being

Oats,  
Clover,  
Wheat,  
Turnips,

as proposed by Mr. Close, I must contend that

Wheat,  
Clover and Rye Grass,  
Clover and Rye Grass, pastured,  
Oats,  
Turnips,

would be a much more judicious and profitable course. That good crops of wheat may in some seasons be obtained after clover or clover and rye-grass, on dry lightish soils, or dry loams, without material injury to the land, has been sufficiently proved, but that as a *general system*, it is the most advantageous, will be denied by a vast number of distinguished husbandmen, and upon lands where clay predominates, or corn where the portion is considerable, wheat after clover is, I conceive, ruinous management. For no system can be otherwise, which destroys fertility by the growth of root weeds; and it is well known, that in almost every season it is impossible to prevent the growth of much couch grass, (a species of the *Triticum* of Linnæus), and other destructive root weeds among wheat *sown upon clover lays*. Upon lightish soils, a fallow crop obtained after a proper preparation and judicious drilling and horse-hoeing, may enable the farmer to destroy these weeds. But every experienced and attentive agriculturist well knows, that unless the season be uncommonly propitious, even a bare fallow will not enable him to eradicate them *on clay or strong loams*. Perhaps the advocates of Mr. Close's system will contend that hoeing the wheat will, in a great degree, prevent the growth of root-weeds. I attach all the importance to drilling and horse-hoeing, which so excellent a mode of cultivation deserves; still, however, I must maintain, that even under that system, the growth of root-weeds cannot be effectually checked *among wheat after clover*. Besides, if we advert to the difficulties attendant upon the drilling of wheat upon clover lays, or after clover and rye-

grass, even on the light soils of Norfolk, as stated in the intelligent letters in your Magazine, signed P. J. and Agricola Norfolciensis—we cannot but believe such management on clays or strong loams still more difficult. As a preparation for drilling, however, the clover lays in some parts of the country, receive two or three ploughings before the seed be committed to the ground; but in many seasons such cultivation cannot be pursued, and in others it would greatly increase those enemies to fertility, (root-weeds). In situations where the soil has not been deteriorated by having been too long in a state of aration\*, great crops of oats are obtained after clover or clover and ryegrass, which, besides yielding straw of greater value than the wheat crop, whether we advert to quantity or quality, leave the land perfectly clean, and free from pernicious root-weeds. These are advantages which every practical farmer ought to estimate highly, as the succeeding fallow crops either of turnips, beans, or pease, will not only be more productive, but obtained at a smaller expence. Besides, as the oat crops produce the greatest quantity of straw, and as that straw is of a quality much superior to that from wheat, a greater number of cattle can be supported, and this, though frequently deemed of little consequence, is, in my mind, of vast importance, for it augments the quantity of manure which, as I have remarked in a former paper to you, increases, in some measure, like money at compound interest. Thus is a better foundation laid for permanent and increasing fertility. All these advantages, however, are stated by the advocates for wheat after clover, to be overbalanced by the superior value of the crops of that species of grain. But from the result of my own practice, and all the information I have been able to collect, I have reason to conclude that, *on an average of years*, the oat will be fully equal in the value of the grain to the wheat crops.

It will appear by the table I have mentioned, that wheat after clover, should be the invariable practice, and that on one description of land, potatoes should succeed the wheat. Now, Sir, I conceive this is making bad worse, for potatoes should be planted in April, and it rarely happens that land can be perfectly cultivated and cleaned, and *root-weeds* effectually destroyed, so early in the season. The same or greater objections may be urged against sowing beans after wheat obtained by such management, upon “rich or sandy loams,” which would unquestionably be more compleatly cleaned, and rendered more profitable, by being cultivated for turnips in such a mode as to admit of horse-hoeing†. Another course recommended for the last species of soils is,

\* Why should not soils be injured in this way?

† A corn in the broad cast method.

Beans,  
Barley,  
Pease,  
Wheat, *Ad infinitum*.

This course, *Drilling and Horse-hoeing being judiciously practised*, would certainly enable the agriculturist to keep it perfectly clean, and (if manure was not withheld) in a productive state for a considerable length of time. I am, satisfied, however, that none but lands of the first quality, or those where great quantities of *foreign* manure can be obtained, can be continued in the greatest possible state of fertility for 20 years in succession, without being laid to grass *once at least* in six to eight years, and continued one or two years in that state, ere the plough be again introduced, and I prefer two years in clover and ray-grass, to one year in clover, pasturing the second year.

If the lands are light or gravelly, three years in fallow, and as many in grass, I consider as the most advantageous system, and therefore approve of the course in Mr. Close's table, viz.

Turnips,  
Barley,  
Clover and Ray Grass,  
Clover and Ray Grass,  
Clover and Ray Grass.

I cannot however approve of those which follow, namely,

Pease,  
Wheat or Rye.

Those which universally succeed in this part of the kingdom, and which are incontrovertibly more profitable and ameliorating, are,

Oats,  
Turnips,

Barley, (on the best parts, wheat; and on patches of the worst, rye),

Clover and Ray Grass.

Experience having clearly proved that "old Mother Terra delights in variety," that fallow crops should succeed those of grain, and that crops of some species of grass, particularly clover and ray-grass, should be included in the course of crops best calculated to promote and continue the *utmost* fertility, the number of years in which deep and productive lands should be kept in grass previous to their being again converted into tillage, viz. *whether for one or two years*, is a point to be determined by calculations, in which the demands for, and comparative prices of corn and butcher's meat, will undoubtedly require the attention of the farmer. On the score of fertility, however, I have no doubt but two years in grass, (one at least

R

in pasture), will, in general, be the most proper management in the course of a pretty long lease. The mode recommended in cultivating the turnip and leguminous crops, is to drill two rows, or the top of each ridge, and to have these ridges with three feet intervals. This mode I have now pursued. But, Sir, if horse-hoeing deserves the praise which has been bestowed upon it, (and I am satisfied it does) as an operation highly conducive to compleat pulverization and destruction of weeds, and consequently to a great increase of fertility *at a cheap rate*; it seems reasonable to conclude, that *one row* with intervals of 24 to 28 inches, is a more advantageous mode of culture. For under that recommended in T. T's. letter, the intervals of the double rows must either be hand, or imperfectly horse-hoed, whereas under the latter, they are all sufficiently wide for *perfect and efficacious horse-hoeing*; and I am persuaded that either in the turnip or leguminous crops, or those which succeed them, the paucity of the rows will be compensated by a more abundant produce. In this part of the country it has been ascertained by accurate experiment, that turnips drilled in single rows, (or small ridges) with intervals of 26 inches, are more productive (and enable the husbandman to pulverize his land more completely and much cheaper), than those sown on a flat surface, with intervals of 13 inches.

I intended to have pursued the discussion relative to the best course of crops, and to have subjoined some calculations and facts in support of the opinions I have advanced, apprehending, however, that I have already trespassed on your time, I must embrace a more favourable opportunity.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

P. S. I am unwilling to encroach on the province of your correspondent Chorographus, by treating at large on the agriculture of this county. Any information, however that I can communicate, is at his service, and I hereby authorise you to furnish him with directions for writing to me, *if he apply for them.*

A. N.

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### EASY METHOD OF MEASURING TIMBER &c. IN THE WOODLANDS OF SUSSEX.

*To the Editor of the Agricultural Magazine.*

SIR;

**I** OBSERVE with pleasure your disposition to introduce into your work, every thing that can conduce to the advantage of the farmer; I have therefore concluded it would be acceptable to you, to receive some account of the easy mode of

measuring timber, universally adopted in a county famous for the production of the English Oak. I am the more inclined to circulate this article of information, because our factors and surveyors are so fond of bewildering the unlettered peasant in mathematical mysteries, in order to take advantage of his simplicity.

In the districts to which I have referred, the seller and buyer make their separate valuations, by measuring and estimating the trees as they stand, in a ready and accurate manner.

It is done by means of a long rod, or slender pole about a statute rod in length; generally a slim ashen sapling, that has been drawn up to that length among tall coppice wood, and its mean thickness is about that of the handle of a hay-rake; together with a measuring strap on the most simple principle, the invention of long and extensive practice, being common to the woodlands of Sussex, and is perhaps peculiar to them: I have observed it no where else in use. It is a long thin strap of leather, graduated and figured agreeably to what is called timber girt, (allowance being made for the bark) so that the figures and intermediate gradations shew, at sight, what the naked timber will square, and the rod gives the length of the main stem at least: thus by the help of the sliding rule, the admeasurement of the principal part is set down in this summary way, with a sufficient degree of exactness. The upper length, if the tree be very tall, also the main bough or spire, together with one other bough, are estimated by the eye, it being the practice of Sussex to measure two principal boughs or branches of the top of a timber tree, up to six inches girt.

Two men accustomed to this mode of estimation, will view an extent of timber with very little deviation as to quantity. Hence the matter of bargain lies with the specific qualities of the wood and bark, the situation in which they grow, and the fair market prices at the time of sale.

Another simple invention, probably the result of the same long continued practice, has been hit upon for marking the trees thus measured, and set out for sale. This is a light hatchet, with a broad hammer end, and with a letter or other character rising with a sharp relief out of the face of it. The roughness of the bark being struck off with the edge of the hatchet, the required mark is imprinted by one stroke of the hammer.

The method of taking down timber trees here, is invariably that of sawing them off horizontally close to the ground, by means of a long saw, with one or both handles fixed on the upper side, in a manner somewhat similar to that by which the lower handle of the pit saw is fixed at the back, the trees being first dipped in on the falling side with an axe.

I have been indebted to an intelligent traveller for these particulars, and trust they will be useful to many of your correspondents.

I am, Sir, yours, &c.

Horsham, Feb. 10, 1804.

C. B.

## OBSERVATIONS ON THE WEST AND SOUTH DOWNS.

*To the Editor of the Agricultural Magazine.*

SIR,

ONE of your Correspondents, who will always attract attention from the command with which he employs his pencil, has given a sort of general survey of English ground, and he lightly touched on that singular tract of country, extending from the Hampshire downs to the marsh lands in the vicinity of Pevensey. The reach, from East to West, is nearly sixty miles, and it consists of a succession of bold elevations, the width of which is sometimes reduced to three miles, and rarely exceeds six.

As you advance towards them from the Northern side, they rise like an artificial rampart, formed by the labours of some British Titans. These hills are separated by profound vallies into five distinct ranges, through which are emptied the abundant waters which precipitate themselves from a parallel chain of hills to the Northward of a yet bolder character.

The four vallies which separate the Sussex downs are those of Arundel, Shoreham, Lewes, and Seaford: The division West of Arundel, has been called the West downs; those to the East, are the South downs.

These districts being rarely more than a single range of hills, chiefly appertain to the townships on either side of them. The vallies contain meadows and marsh lands, provincially called brook lands; the slopes and lower stages of the hills bear corn. The tops of the hills are sheep-walks, which yield fine turf, with a mixture of furze and heath; and some of the steeper surfaces, especially of the West downs, are hung with wood.

As lime has become so important in Agriculture, information on the method adopted in these districts in its preparation will not be unacceptable.

When chalk is intended to be burnt into lime, especially with wood, the blocks and large pieces only are used. The rubble and smaller pieces, which break off in quarrying are unsaleable, and are thrown aside as rubbish; hence the immense mounds noticed in the district of Petworth, as a proper subject for experiment.

The quarries of Duncton, in the more immediate face of the Northern cliff, and from which the Western extremity of the Weald of Sussex is supplied with chalk for lime, disclose, a variety of strata. The upper parts of the steep, are composed of "white chalk," which is burnt for manure, and answers to the white chalk of the Houghton quarries, (the hill here being much higher than at Houghton) beneath this is a deep stratum of "grey chalk," which is burnt for cement, and is of a superior quality for this purpose; and below this, is a bed of "marl," a still fouler chalk; the more immediate base of the hill being the "maum" soil, which so much prevails in the district of Petworth.

This species of strong calcareous soil\* is not peculiar to the West downs of Sussex, but is to be found perhaps, in a greater or less quantity, at the foot of every high chalk cliff of the Island. I have observed it at the foot of the Betchworth hills in Surrey, Maamscot, and Wrotham hills in Kent, at the foot of the Hampshire hills near Petersfield, and of the Wiltshire hills by Warminster. Whenever the height is greater than the depth of the mass of chalk which forms it, this species of soil which appears to be its natural adjunct, is probably to be found at its base.

It may be observed, that in one of the quarries of white chalk in the upper part of the face of the steep above Duncton, a thin stratum, or list of three or four inches in thickness, runs nearly horizontally, but taking a somewhat wavy line across the middle of the quarry. It has something of the appearance of fuller's earth, but is calcareous. The quarrymen call it, "marl flour." It is a species of calcareous fossil, I have not noticed elsewhere, at least not in a similar situation†.

Arundel,  
Feb. 9, 1804.

I am Sir, yours, &c.

K. B.

\* By analysis, the "maum" soil (or black wheatland) of Duncton (at the immediate foot of the hill) yielded only seven and a half, while that of Graffham (of a browner colour and interspersed with granules of chalk,) afforded forty-five and a half, per cent. of calcareous matter. The residue of both, brown silt; that of the latter being the finest and most tenacious.

† By analysis with the marine acid, an hundred grains of this fossil yielded forty-one grains of calcareous earth, leaving fifty-nine grains of impalpable matter, resembling fuller's earth, but somewhat darker in colour.

## CHARRING HOP-POLES, SUGGESTED AS THE MEANS OF PRESERVING THEM.

*To the Editor of the Agricultural Magazine.*

SIR,

THE diminution of wood in every part of the kingdom, and the extensive demand there is for that species which



is required for hop-poles in the counties of Kent and Sussex, will render every expedient acceptable that can conduce to make its utility more permanent. It is therefore suggested to the ingenuity of your correspondents, to discover some method by which hop-poles can be rendered more capable of resisting decay in that part which penetrates the ground. We are to consider, that 3000 of these poles are required for a single acre, and therefore, that it is an object of great consequence. I wish to know particularly, from some of your friends in the hop districts, if they have ever tried the scheme of charring the bottoms of the poles, and the hint is taken from the method of charring posts, adopted with so much success in Norfolk and some of the midland counties.

Hoping for some information through the channel of your useful Miscellany,

Henley,  
Jan. 25, 1804.

I am Sir, yours, &c.

JUVENIS.

## MOWING CORN.

*To the Editor of the Agricultural Magazine.*

SIR,

Maidstone, Feb. 11, 1804.

**I**N a preceding Number, your correspondent made Kentish Agriculture the immediate subject of his enquiry. I know it was impossible in the compressed view he took of that curious and interesting matter, to give an account of one hundredth part of the peculiarities and improvements in that county: indeed it was the less necessary to enter much at large on the subject, because on the husbandry of the Isle of Thanet, and on some other eccentricities and excellencies of the farming of that district, you have examined in your previous volumes.

The operations of rustic business have, Mr, Editor, been favoured with your peculiar attention, because you are aware how much detriment arises to the national produce from inattention in this particular. The object of this paper is, to impart a method of mowing corn, in which the people of Kent so much excel, that has been explained by a person of extensive knowledge, who has devoted his life to subjects of agricultural improvement.

In the practice of every department of the kingdom, the scythe is swung horizontally or nearly level, leaving the stubble of almost an even height; or if it rise on either side, forming what are called swath balks, the butts of the swaths are suffered to rest upon them, the heads or ears of the corn falling into the hollow or close mown part of the preceding swath width. They are of course liable in a wet season, not

only to receive an undue portion of rain water, but to be fouled with the splashings of heavy showers.

In the Kentish practice, the position of the swaths is different. Here, the heads of the corn rest on the top of the swath-balk, provincially the "beever," which is left of extraordinary height, as ten to fifteen inches; so that the wind has a free circulation beneath the swaths.

The workman, in performing this judicious operation, proceeds with his right foot forward, entering the point of his scythe with a downward stroke, and raising it as abruptly out, bringing the handle round to the left until it forms nearly a right angle with the line of the swath, carrying the corn in the cradle three or four feet behind the place where it grew, lifting it high, and letting it fall on the beever behind his left foot, and in the position above described.

The disadvantages of this method are, the loss of some straw, the incumbrance arising from the length of stubble, and a little additional labour; but in a district where cattle are not numerous, the loss of straw is not felt, and in any country, the principle of laying the heads, instead of the butts of the corn upon the swath-balk, whether left high or low, might be well adopted.

D. D.

## CORRECTION OF AN ERROR.—KOHLRABE.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** WILL thank you to correct the following error in my last communication.

In line 44, page 8, of Number 54, by your insertion of one little word you have totally perverted my meaning. As you have published my letter, you make me say, "It is *not* to those premiums we owe the first knowledge, and first introduction of the turnip-rooted cabbage;" but in my letter, I avowedly and unequivocally assert, that it *is* to those premiums we must attribute that introduction. To their indirect operation indeed, as I proceeded to point out in the following period. I trust you will insert this correction in your next.

Since my last, I have had an opportunity of viewing the Kohlrabe in its growing state, which has perfectly satisfied me that my conjectures were well founded.

I have the honour to be,

Sir, your obedient servant,

CASTOR.

Norwich,

Feb. 12th, 1804.

# ENUMERATION OF PATENTS LATELY ENROLLED.

**Nov. 8.** **B**OOOTH HODGETTS, of Dudley, in the county of Worcester, Nail Ironmonger; for machinery for rolling iron for shanks, and for forming the same into shanks for nails.

— 12. Richard Younger, of Pittman's-buildings, Old-street, in the county of Middlesex, Gentleman; for an improved method of extracting worts from malt, barley, and other grains and substances.

— 17. William Freemantle, of Bunhill-row, in the parish of St. Luke, Old-street, in the county of Middlesex, Watchmaker; for improvements in the construction of steam engines.

— 19. James Bevans, of Castle-street, City-road, in the county of Middlesex, Carpenter, being one of the society of the people called Quakers; for methods of applying machinery for the purposes of more expeditiously striking, or sticking mouldings, and for rabbetting, ploughing or grooving, fluting, and excavating wood, in every manner, now usually performed by any kind of plane.

— George Penton, of New-street-square, in the city of London, Brass-founder; for an improvement on lamps, commonly called Argan's lamps.

**Dec. 3.** James Sturinan Searles, of Little Alie-street, Goodman's-fields, in the parish of St. Mary, Whitechapel, in the county of Middlesex, Gun-maker; for an improvement or improvements to be applied to any kind of fire-arms or defensive instruments.

— 21. Charles Wyatt, of New Bridge-street, in the city of London, Merchant; for a new-invented process of purifying ardent spirits.

— 31. Robert Cross, of Quakers Brook within Houghton, in the county of Lancaster, Tanner; and Thomas Southworth, of Houghton, aforesaid, Cotton-manufacturer; for their new-invented mode of heating such pans, vats, cisterns, and other vessels as are required to be heated by fire, and used for working steam engines, and in the businesses of calico-printer, dyer, brewer, paper-maker, bleacher, salt-maker, tanner, and other such-like trades; by which invention much expence will be saved, not only in the fuel to be used in the heating of such vessels, but also in constructing the vessels themselves.

## CRITICAL CATALOGUE.

*An Inquiry into the Structure and Animal Economy of the Horse ; comprehending the Diseases to which his Limbs and Feet are subject, with proper Directions for shoeing ; and pointing out a Method for ascertaining his Age until his twelfth Year. To which is added, an Attempt to explain the Laws of his Progressive Motion on Mechanical and Anatomical Principles. The whole illustrated with seventeen Copper-plates.* By Richard Lawrence, Veterinary Surgeon, Birmingham, Royal 8vo. 1l. 1s. Nicol and Seeley.

The multiplicity of Treatises on the Veterinary Art, which have within these few Years been submitted to the public, furnishes ample demonstration of the advantages that have been derived from the establishment of a College, exclusively devoted to researches on the subject of such importance to the interests of Agriculture in particular. Were it even to be objected that none of these works, individually, contains much new information, yet the united labours of so many practitioners, educated under the auspices of that institution, must tend to elucidate the principles of an art, so long enveloped in the impenetrable gloom of prejudice and ignorance.

The present volume is the second edition of a work which originally appeared in quarto, in the year 1801. It is announced by the author as the first fruits of his literary labours, and we observe with pleasure, that he combines the more useful qualities of clearness and perspicuity, with the more agreeable accompaniments of elegance and classic taste.

“ With respect to the plan of the present work, says Mr. Lawrence, I have not entered very extensively into a description of internal diseases, from a conviction that such a treatise would be attended with more danger than utility. The internal diseases of horses, except some few which are well marked, are so obscure, as even to baffle the skill of an experienced practitioner in his endeavours to ascertain them. Hence it cannot be expected, that proprietors of horses, from the casual and confined observation furnished by their own stables, can acquire the faculty of discrimination in this respect, and the mischief arising from an improper administration of medicine, must be sufficiently obvious, both from candid reflection and fatal experience.

“ But farther, to obviate any disappointment which might accrue to my readers, in not meeting in the following pages with what has been generally termed, a complete System of Farriery, I have only to add, that I have directed my endeavours to point out the means of preventing diseases, and thereby to save the animal the pain and danger of undergoing medical discipline from the hands of those who are unqualified for that purpose.

“ For this reason, I have treated principally on the structure and diseases of the limbs, shoeing, management of the stable, &c. than which I conceive nothing can be more important. How far I have succeeded, I must submit to the candour of the public to deter-

mine; I shall at least, possess the satisfaction of having endeavoured to promote the science, by promulgating that theory which I have found to be true in practice.

"The source of peculiar properties in the structure and motion of the animal is, in general, but little understood. This branch I have attempted to elucidate upon mechanical and anatomical principles, and the explanatory plates being designed by myself, will, I trust, be more accurate than they would have been from the hands of a second person."

The volume is divided into eleven chapters. The first treats of the external conformation of the horse; the second relates to the eye, and the third is devoted to shoeing. For shoeing a perfect foot, the author recommends the following plan:

"To pare the wall just sufficient to make it level; to pare the sole as much as will be necessary to remove the dead surface which endeavours to detach itself by scaling off spontaneously; the frog to be cleared of its ragged edges; the heels not to be scooped out, nor notched in any way whatever. The shoe for a sound foot to be about three quarters of an inch broad in the web, and of an equal thickness from toe to heel; the surface next the hoof to be half flat and half bevilled, except at the heels, which should be entirely flat, so as to press on the bars as well as on the heels. The nails should be eight in number, four on each side, and inserted principally near the front of the hoof, so as to leave the heels as much at liberty as possible.

"The shoe should never be made of a smaller diameter than the foot, particularly at the quarters. This plan, however, is generally pursued, from the apprehension of the horse's cutting his fetlock joints from the feet being too broad. But a horse seldom cuts whilst his feet are sound and free from pain, except from a natural malposition of his legs. The nails should be as small as possible, and in a wedge-like form at the head, by which means they will retain their hold with greater effect."

The fourth chapter treats of the grease, the fifth of lameness in general, and the sixth of wounds. Respiration natural and diseased is the subject of the seventh. On the internal appearances arising from broken wind, and its general symptoms, Mr. Lawrence differs considerably from the writer of a modern popular Treatise on Horses;\* but as this is more intimately connected with the study of the practitioner, we shall content ourselves with referring the reader to the Strictures of the latter on this part of our author's work.

Among the observations on the Structure and Economy of the Stable, which occupy the eighth chapter, after insisting on the necessity of the introduction of a sufficiency of fresh air and light, the author directs the reader's attention to the danger and inconveniences arising from narrow stalls, and to the manner in which the stall is usually paved, which he says is equally productive of bad effects. The surface is generally formed with a descent from the head of the stall backwards, with a view to let the urine run off

\* *Compendium of the Veterinary Art*, by James White, p. 67.

from the litter.\* Thus the horse stands constantly up hill, by which position he naturally becomes so much fatigued, that he may be said to have performed half his work before he is led out of the stable, for the ligaments of his joints and the flexor muscles of his legs, are thereby perpetually extended. But the greatest mischiefs which arise from this mode of constructing the pavement, consist in obliging the horse to stand with his forelegs farther under him and out of a perpendicular direction, by which position he not only acquires a bad habit of leaning forwards, but also becomes liable to a contraction in the heels of his feet, by the weight being thrown principally on the toes. It moreover promotes an inclination to swelling in the hind legs, as well as being frequently the cause of his body slipping backwards in the stall when he lies down, so that, being at the utmost extent of his halter, he has not the power of rising again on his legs, for want of the free use of his head and neck.

"The ground surface of the stall therefore, should be perfectly level and paved with hard bricks. A conductor for the urine may be obtained by means of a drain passing from the center backwards under the pavement. For this purpose, the center of the stall should sink somewhat lower than the other parts of it, and the entrance to the drain should be covered with an iron grate six inches square."

In another part of his work, the author ascribes to this faulty construction of the pavement of the stable, a tendency to produce grease, or at least to aggravate the ill effects of the other causes of that disorder. "The pavement of the stall being on an ascent, will throw three fourths of the weight of the body on the hind legs, and will also distress them by the toe being placed upon higher ground than the heel, whereby the ligaments and membranes are kept constantly distended. Under these unfavourable circumstances the legs swell, a rupture of the skin eventually takes place, and a serious discharge ensues, which by exposure to the atmosphere acquires a fetid and acrimonious quality."

These considerations certainly appear worthy of serious attention, and we doubt not but experience will be found to demonstrate the truth of the author's statements.

In the ninth chapter Mr. Lawrence treats of the age, and in the tenth of the Education of Horses.

In the eleventh and last chapter, entitled, "On Progression," the different paces of the horse are successively described. The plates are well calculated to convey a clearer idea of the subjects to which they refer.

The chapter on progression is very ingenious, but is principally derived from Bourgelat and other French writers. Mr. Fearon and

"\* This is done with a view to save straw, which in some situations is probably an object of importance; but with farmers it would be an advantage to have level pavements without drains, in which case the urine would be absorbed by the straw, and from the quantity of salts that it contains, would produce better manure, whereas upon the old construction of the pavement it is wasted."

Mr. Lawrence differ on the mode of shewing the proportions of the horse; and here the former, we think, has the advantage. It would be impossible without a plate to convey our meaning.

Among the few prescriptions which the author has thought proper to introduce, there are several which certainly require revision, for instance, that recommended for the greafe, (p. 81,) where he directs nine drachms Barbadoes aloes, to be administered in one ball. Mr. White, to whose opinion much deference is due, as well as other writers, in the same case, recommend an alternative, containing about one sixth of that quantity, with the admixture of a small proportion of Castile soap. The uninstructed reader would be at a loss how to mix the aloes as prescribed by our author.

Upon the whole, this elegant and well written book appears to be more shewy than useful, a circumstance that we can never neglect to notice in works of this kind, which by large type and loose printing, are carried beyond the reach of persons of moderate income, as is the case with most of those who direct their studies to the present subject.

Although we profess ourselves averse to that species of quackery which puts prepared medicines into the hands of ignorance, to be applied upon the appearance of any supposed disorder, yet we must differ from Mr. Lawrence, who thinks (preface, p. 14.) that chests of medicines accompanied by books of directions are to be deprecated—for this, among other reasons, that some disorders are so rapid in their progress, the fret for instance, that gentlemen who reside at a distance from large towns would be prevented, in most cases, from applying that immediate relief which is so absolutely necessary.

While we are upon this subject, we cannot forbear observing, that the author should have extended his enquiry to those other disorders which he says are so little understood by practitioners in general, but which he leads us to suppose he himself does understand. We lament also that the professors of the Veterinary Art too often appear to keep to themselves some latent information, which if brought forth to discussion, would be attended with the most beneficial effects. What advantages might not be derived from a liberal communication to the public of difficult cases in practice, in the form of a Veterinary Journal!

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## HISTORY.

### National Transactions.

GREAT BRITAIN.

**A**MONG the domestic occurrences of the past month, the circumstance by which the public mind has been principally agitated, was the alarming indisposition of our beloved Sovereign. His progressive convalescence, however, must afford sincere pleasure to every loyal subject.

The same doubt and uncertainty continues to prevail respecting the time when the so long threatened Invasion will be attempted, but report states that it is deferred till the end of March.

Notwithstanding the war in which we are engaged, and the utmost exertions of an implacable rival, either by force or artifice, to ruin our commerce with the continent of Europe, the total produce of the taxes for 1803 amounts to little short of thirty one millions sterling; a sum far exceeding that of former years, and which sufficiently demonstrates that our trade, manufactures, and general produce cannot have been much diminished.

GERMANY. The Emperor, with a vigilance and precaution which the critical situation of the continent so fully justifies, has ordered the formation of three armies on the frontiers of Bavaria. The first is collecting in Bohemia; the second, which is to consist of 20,000 men, is assembled near Linz; and the third, which will be the most numerous, is collecting in Upper Silesia and the Tyrol. These measures, which are stated to be purely defensive, have occasioned the warlike preparations of the French in Italy, and the augmentation of their troops along the Rhine. Austria, however, will, we are assured, preserve her neutrality, unless a closer connection take place with Russia, or France, Prussia or Bavaria give greater cause of provocation than they have yet offered. The rumour of an offensive and defensive alliance with Russia is very general in the Imperial capital.

The Austrian government has likewise dispatched a force towards the Turkish frontier, to cause the Eastern provinces to be respected by the rebels under Paswan Oglou and the revolted Janissaries at Belgrade, who make daily excursions upon their borders to collect plunder.

FRANCE. The threatened Invasion still continues to be a fruitful topic. Bonaparte is now stated to have discovered that his gun-boats are but ill calculated to contend with British ships of war, and in consequence, to have turned his attention to the squadrons in Brest, l'Orient, Rochfort, Ferrol, and the Texel, for more efficient opposition than could be expected from his flotillas at Boulogne and Flushing. The construction of additional gun-boats is not, however, neglected. With these and the squadrons in various stations, it is conjectured that one vast effort will speedily be made to cover at once the whole extent of the channel with his fleets and flotillas from l'Orient to the Texel. In the confusion that it is supposed must take place, he flatters himself that a great portion of his armaments may escape the British fleets, and effect a landing. The infatuated French soldiery are kept in such profound ignorance as to flatter themselves, that when the Channel is once crossed, their labours are at an end.

Intelligence has been received, that an embargo has been laid on all vessels at Bourdeaux, and that all the merchantmen at that place, to the number of about fifty, had been taken into the service of the Republic. It is likewise stated, that there are about 250 flat-bottomed boats at Bourdeaux, and that much activity was employed in fitting them out.

RUSSIA. The Emperor is reported to have ordered another levy of 80,000 men. The Cabinet of Petersburg appears daily more adverse to the politics of France. An army of 40,000 men are, it is said, ordered to march for the purpose of protecting the neutrality of Denmark. On this interesting subject we are still, however, without the necessary information on which a reasonable conjecture can be formed; but yet there appears good reason to believe, that even if the Emperor of Russia takes no decisive part against France, he views with jealousy the enormous influence of France, and the use which is made of it by the First Consul. There exists a hope, likewise, that the two Imperial Courts are approaching that state of confidence and good understanding, which without producing active hostility against France, must impose a powerful check upon her wild ambition.

EAST-INDIES. Dispatches received from the Governor of Ceylon, give an account of a melancholy disaster which has befallen the British troops com-



posing the garrison of Candi in that island. On the 24th of June last, during the period of a truce with the natives, the latter rose in great numbers and attacked the fort occupied by the British. The Commandant, Major Davie, unfortunately capitulated on the following day, and marched out of the fort with all his force; soon after which, the European soldiers, forty in number, were murdered in cold blood. The Malays and native troops were spared. Major Davie, a Captain of artillery, and four Malay officers were carried off, and their fate is unknown. Governor North seems to impute blame to the conduct of Major Davie, who probably may never appear either to vindicate or explain it. We hope this misfortune will not endanger the safety of our establishment in Ceylon, though private letters speak of its situation in the most desponding terms. The contest with the King of Candi, into which the government plunged itself, has hitherto been productive only of disastrous consequences; and the British force is so much reduced, that serious apprehensions are entertained for the safety of the settlement.

It is reported, that a desperate action has been fought between the British and Mahratta forces in the neighbourhood of Surat, which place was saved from falling into the hands of the enemy only by the timely arrival of the 65th regiment to its aid.

**WEST-INDIES.** An occurrence, of which it is impossible to foresee the consequences, has taken place in the Western hemisphere: we allude to the total evacuation of St. Domingo by the French, and the establishment of an independent negro power in that extensive island.

After an obstinate and sanguinary conflict with the blacks under the command of Dessalines, in which the French suffered very severely, the General in chief Rochambeau, on the 20th of November, after having proposed to surrender to the English on terms that were inadmissible, he formed a capitulation with Dessalines, the black Chief, by which his army were to embark on board his ships and transports, in the hope of making their escape to France. This scheme, however, was rendered abortive by the vigilance and perseverance with which our Squadron maintained the blockade in the midst of tempestuous weather, and it is owing to the critical interference of British humanity, that the whole of the French were preserved from being sunk at their anchors by the red hot shot of the much injured and indignant Blacks.

With the precise number of the French ships which have thus fallen into our possession, we are yet unacquainted; but among them are *La Clarinde*, *Le Ventue*, and *La Surveillante*, of 44 guns each; *Le Cerf* and *Le Don Cherville* corvettes, besides several merchantmen, richly laden with valuable articles and colonial produce. The whole amount of the persons embarked on board the French shipping, including the soldiers, planters, merchants, women, and children, is little short of 5,000.

## Agriculture.

### BATH AND WEST OF ENGLAND SOCIETY.

*Society's Rooms, Bath, Dec. 13th, 1803.*

**T**HE Bath and West of England Society, for the Encouragement of Agriculture, Arts, Manufactures, and Commerce, propose, in pursuance of their plan, to bestow the following premiums:—

#### CLASS I. *Agricultural Operations.*

1. *Ploughing.*—As in the whole circle of Agricultural practice, there is nothing more interesting to the farmer than *ploughing well and cheap*, the fol-

lowing premiums are offered, that a fair and general comparative trial may take place, in the year 1805, of the various ploughs of different constructions :

For the plough that performs best ; *Six guineas.*

For the second best ; *Four guineas.*

For the third best, if it has any real merit ; *Two guineas.*

And that rewards be also given to the ploughmen, viz.

To the ploughman of the first best, a Pair of Buckskin Breeches, or a *guinea.*

To the second best, a Pair of strong Sheepskin Breeches, or *half-a-guinea.*

To the third best, a Smock Frock, or a *crown.*

Particulars of the day and place to be agreed on at the February Meeting, and advertised in the Resolutions.

2. *Double-furrow plough.*—The cost of the said plough will be given as a Premium to the farmer who shall introduce, and plough therewith the greatest number of acres, in the year 1804, in any parish in the Western counties, wherein this plough has not before been used.

Claims to be made, accompanied with affidavits, at or before the meeting in February.

N. B. This plough turns two acres in a day with three horses, or four oxen.

A Premium of *five Guineas* will also be given for a Double-Furrow Plough on a new and improved construction.

3. *Ploughing with two Horses or a pair of Oxen.*—To the Farmer who, in proportion to the quantity of his arable land, shall plough the greatest number of acres, not less than twenty, with any Plough, drawn by two horses, or a pair of oxen only, and without a driver ; *Five guineas.*

Claims and attested certificates to be delivered in, at or before the November meeting, 1804.

4. *Use of the Drill-Plough and Horse-Hoe.*—A premium of *two guineas* will be given to the servant or labourer in husbandry, who, in the year 1804, shall sow with a Drill-plough the greatest number of acres, not less than fifty, with any kind of grain, or with turnips, rape, lucern, sainfoin, or other seeds.

A premium of *one guinea* for the next greatest number of acres so drilled, not less than thirty.

Also, a premium of *two guineas* to the labourer who shall in the best manner horse-hoe the intervals or alleys between the rows of the greatest number of acres so drilled.

Certificates of the number of acres drilled or horse-hoed, and that the work is well done, signed by the master, to be produced at or before the Society's meeting in Sept. 1804.

The said premiums are extended to the year 1805, for crops which require it ; and, in that case, certificates to be sent in prior to the September meeting in that year.

5. *Drilled Wheat or Barley.*—To the farmer who shall, in the years 1804 and 1805, raise the greatest crop of Drilled Wheat or Barley in a fair comparative experiment with broadcast on the same land, and render an accurate account of the expences ; each crop to be not less than two acres ; *Five guineas.*

Claims to be made on or before the first of November 1805, with affidavits of the quantity per acre, &c. Crops to be inspected.

6. *Drilling and Hand-hoeing Wheat.*—To the person who, in the years 1804 or 1805, shall ascertain by full and fair experiment, on similar soil, and under similar preparation, the comparative produce in the Drill-husbandry between *drilling and hand-hoeing* at least one acre of Wheat, on which not less than six pecks of seed had been drilled : and drilling, and twice or thrice scarifying, the same quantity of land, with half the quantity of the same seed ; *Five guineas.*

7. *Drilling and hoeing turnips.*—To the person in the Western counties, who in the year 1804, shall drill, and afterwards twice effectually hoe, the greatest number of acres of Turnips, in proportion to the size of his arable farm;—Notice to be given immediately after drilling; *Five Guineas.*

8. *Dibbling Wheat.*—To any person who, in the year 1804, shall set by Dibble, in a skilful manner, the greatest number of acres, not less than ten; and produce to the Society an accurate account of the expence, quantity of seed dibbled per acre, and the produce; also an account of the quality and value of the land; *Five guineas.*

9. *Hoeing Turnips.*—To the labouring man or woman in any part of the West of England, (where turnip-hoeing has not been common) who shall hand-hoe the greatest quantity of Turnips in one season, not less than five acres, in the best manner; *Three guineas.*

N. B. All claimants must deliver in their claims, with their names and places of abode, the number of acres hoed, and the sort of hoe used, certified by the masters for whom they worked, and the ministers and churchwardens of the parishes where the work was done, to the Secretary, on or before the first of November 1804.

10. *Women Reaping.*—To the woman who, in the harvest of 1804, shall, where the practice is not common, reap the greatest number of acres of wheat, (not less than five) and perform the same in a skilful manner; *Two guineas.*

To the woman who shall reap the next greatest number of acres, not less than four, in a like manner; *One guinea.*

Certificates of the work done, signed by the master, to be sent with claims on or before the first of October 1804.

11. *Threshing and Winnowing Machine.*—To the person, in either of the four Western counties, Somerset, Wilts, Gloucester, or Dorset, who on or before the first of October 1804, shall give notice to this Society of his having invented and erected, in the said current year, any Machine for Threshing and Winnowing Corn, not to exceed 50*l.* cost, which, taking all circumstances into consideration, shall be found by a Committee of this Society, to be the most valuable for the clean and expeditious performance of both operations; *Ten guineas.*

N. B. If more than one shall have been so erected, and notified, the premium, shall be given for the most valuable for general use.

12. *Working with Neat Cattle.*—To the person in the Western counties, who, in the year 1804, shall, in proportion to the quantity of his arable land, do the greatest quantity of work on such farm with neat cattle; *Five guineas.*

13. *Comparative Experiments between Broadcast and Drill Husbandry.*—To the person who, from actual experiments, made by himself during a course of seven years, shall prepare and lay before the Society the best comparative estimate of the success attending the Broadcast and Drill Husbandry, on the four grand divisions of soil, to wit, sand, loam, chalk, and clay, of either of them; fairly stating the expence of each through the usual course of crops, together with the nett produce, and profit or loss, each year, will be given such a reward as the said account may, by able and proper judges, be thought to merit; not exceeding *twenty guineas.* The said estimate to be given in at the Society's meeting in November 1804.

14. *New Experiments in Husbandry.*—An honorary premium, proportioned to merit, will be given to the person who, on or before the 1st of Nov. 1804, shall send to the Society a clear and explicit account of any new experiment in husbandry, which he has himself made, and which the Society shall deem of an interesting nature.

N. B. This Premium is extended to accounts of Planting; and breeding or rearing Cattle.

15. *Small Garden Farms.*—To the Clergyman, Overseers of the Poor, or other principal inhabitants of a country parish, who, in the course of three

years, shall procure to be annexed to any parish workhouse, or house of industry, the greatest quantity, not less than six acres of ground, to be cultivated by the inhabitants of such house, of different ages and sexes, in any district where manufactures are not established, or where manufactures are at a stand, or declining; such Garden-Farm to be conducted on the dibbling, setting, and hand-hoeing system, with a view to affording a healthy and useful exercise to those who are capable of it, and the early training of poor youth to useful field labour; the success of the experiments to be accurately reported to this Society by the principal agent in such undertaking; *Ten guineas.*

### CLASS II.—Soils and Manures.

1. *Best mode, time, and state of applying Manures and Compost.*—To the person who, from his own experiments, actually made, or which he may make during the years 1804 and 1805, shall ascertain and point out the best mode, time, and state of applying lime, soapers' or other ashes, or any other manure, on pasture or other land, and give an explicit account of its operation and success, specifying the nature of the soil; *Five guineas.*

The number of acres, the quantity of manure laid on each acre, the value of the land before and after such manuring, and a fair estimate of the expense, to be sent in, attested, at or before the Society's meeting in Sept. 1805.

2. *Use of Gypsum, or Plaster of Paris.*—To the person who, in the year 1804, or 1805, shall send to this Society the most full and satisfactory account of his success in the use of Gypsum, or Plaster of Paris, as a manure, either on pasture or arable land, and on the greatest number of acres, not less than five; the kind of soil, and its previous state, to be exactly described, and the account to be sent to the Secretary on or before the first of November in either year; *Ten guineas.*

3. *New Manure or Compost.*—To the person who, from his own experience fully attested, shall discover to this Society, on or before the 1st of November 1804, any cheap and valuable manure or compost not heretofore known to be generally found or made, and which shall be adapted for the improvement either of arable or pasture land; *Five guineas.*

### CLASS III. Crops and Plantations.

1. *Cultivation of Froment Tremés, or Spring-Wheat.*—To the person who in the spring of 1804, shall sow the greatest quantity of land, not less than two acres, and produce the best crop in proportion to the quality of the land, with a sort of spring-wheat long tried and approved as bread-corn, and at this time more generally cultivated in the island of Jersey than English wheat, called *Froment Tremés*, from the circumstance of its ripening in three months from the time of sowing, and shall afterwards sow the same land with turnips or winter vetches; *five guineas.*

The growing crop, if a promising one, to be viewed by the Society's Inspectors; and all claimants to produce certificates of the quantity and value of the land sown, and the nature of the soil, on or before the first of December 1804, and a loaf of the bread, and a sample of the grain, at the annual meeting following.

2. *French, or Buck-Wheat.*—To the person who in the spring of 1804, shall sow the greatest quantity, not less than ten acres with French or Buck-Wheat, and the following autumn sow or plant the same land with wheat; the produce of wheat not to be less than 30 bushels per acre; *five guineas.*

All claimants to produce certificates of the quantity of land sown, the nature of the soil, and the produce of both crops per acre, on or before the first of November 1804.

3. *Feeding Sheep with Wheat.*—To the person who in the year 1804, shall sow or plant a quantity of land, not less than one acre, with wheat, and shall feed the same with sheep the summer following; and in the second year shall let the same stand for a crop, giving an account to the Society of the

nature of the land, and the produce of this experiment, compared with the usual produce of the same land ; *five guineas*.

4. *Smut in Wheat*.—To the person who shall discover, and in the year 1804, satisfactorily point out to the Society an effectual method of preventing the smut in wheat, to be verified by experiments ; *ten guineas*.

Claims to be made on or before the first of September 1804.

5. *Best and cleanest Crops of Corn*.—To the farmer who in proportion to the quantity and quality of his land, shall in the year 1804, in a general point of view, exhibit the best crops of corn, pulse, roots, grasses, &c. and whose farm in respect to fertility, cleanness, fences, &c. shall be found in the most complete order, and the occupier of which shall have had it in possession at least three years prior to the claim ; *ten guineas*.

Claims to be made on or before the first of April, and the crops to be viewed between May and August.

6. *Cultivation of Rye*.—To the person who shall in the year 1804, harvest the greatest number of acres of rye, not less than six (raised on land not proper for the culture of wheat) in proportion to the size of his farm, and produce the greatest crop per acre, the nature of the soil and the mode of culture to be described ; *five guineas*.

7. *Planting Potatoes*.—To the person who, from experiments actually made, shall discover whether the planting of whole potatoes, cuttings, shoots, eyes, or what other mode is to be preferred, and if whole, of what size ; *five guineas*.

The quantity or weight planted per acre in each method must be specified, and claims made at or before the meeting in November 1804.

8. *Curled Disease in Potatoes*.—To the person who shall discover the cause of, and point out an effectual remedy for, the curled disease in potatoes, and communicate the same to the Society, with satisfactory proofs annexed, on or before the first of November 1804 ; *five guineas*.

9. *Cultivation of Potatoes*.—To any person who shall be found to have the most merit in renewing and continuing that most valuable root the potatoe, by obtaining new varieties from the seed, excellent both for bearing and eating, to supply the place of the once famous sorts that are now curled, dying, and no longer worth cultivating ; *five guineas*.

10. *Turnips for Autumn Feeding*.—To the person who shall raise for fall feeding the greatest weight of turnips per acre, (not less than twenty-five tons) on the greatest number of acres (not less than five) in proportion to the quantity and quality of his arable land ; the said crop to be twice hoed ; *five guineas*. Claims to be made, and the crops viewed, before the meeting in November 1804.

11. *Turnips for Spring Feeding*.—To the person who shall raise, in proportion to the quantity and quality of his arable land, the greatest weight per acre, (not less than eighteen tons) on the greatest number of acres, (not less than five) of turnips twice hoed for spring feeding ; *five guineas*.

For the next greatest quantity on farms of not more than 50l. a year ; *three guineas*.

Claims to be made, the crops viewed, and certificates of the weight per acre and number of acres to be produced, on or before the 10th of March 1805.

N. B. These two premiums are restricted to parishes where the turnip husbandry has not been in general use.

12. *Scotch, Anjou, and other Cabbages*.—To the person who, in proportion to the quantity and quality of his land, in the year 1804, shall raise the best crop or crops of Scotch or other cabbages, as autumn or winter food for cattle or sheep ; *five guineas*.

To the person who, in the year 1805, shall raise the greatest crop for spring feeding ; Premium of equal value.

The quantity of land planted not to be less than three acres, on farms above 50l. per annum; or two acres on farms of smaller value. Claims to be made, and the autumn crops viewed on or before the first of November 1804; the weight not to be less than twenty-five tons per acre. Claims to be made, and the spring crops to be viewed, on or before the first of March 1805, the weight not to be less than fifteen tons per acre.

13. *Preserving Turnips or Cabbages in Winter.*—To the person who, on or before the first of September 1804, shall discover and communicate to the Society, a cheaper and more effectual method than any now generally known, of preserving turnips and cabbages from frost and rotting through the winter, as spring-feed for cattle in March and April; *five guineas*.

N. B. Specimens of the turnips and cabbages so preserved, to be viewed by persons appointed, or to be produced at the Society's meeting in April 1805.

14. *Turnip Cabbage Plants.*—To the farmer who shall plant the greatest quantity of land, not less than two acres, in the year 1804 or 1805, with turnip cabbage plants, at the distance of not less than two feet asunder, hoe the same twice, and feed them off with sheep in the following spring; the weight per acre as nearly as may be, to be ascertained; and a particular account of the culture, and the quantity of stock sustained by them, sent to the Society previously to the meeting in June or September 1805, respectively following; *five guineas*. Notice to be given that the crop may be surveyed previously to the time of feeding it off.

15. *Turnip-rooted Cabbage.*—To the person who, in the year 1804, shall, in proportion to the quantity and quality of his arable land, raise on the greatest quantity, not less than three acres, the best and heaviest crop of turnip-rooted cabbage for spring feed; *five guineas*.

Timely notice to be given the crop to be viewed; and claims to be made in February or March 1805.

16. *Parsnips as food for Cattle.*—To the farmer who, in the year 1804, shall raise on the greatest quantity, not less than two acres of land, the greatest weight of parsnips per acre, as food for neat cattle, sheep or swine, and ascertain by his own experiments their real and comparative value with carrots, turnips, or potatoes, and report fully and explicitly on the subject, at or before the meeting in June 1805; *eight guineas*. Claims to be then made.

17. *For an autumnal Crop of Turnips by the Northumberland Culture.*—To the person who shall raise for autumn feeding the greatest weight of turnips per acre, cultivated according to the method set forth in the Agricultural Report of the county of Northumberland, not less than 28 tons per acre, on any number of acres, not less than five; *five guineas*.

To the person who shall raise the greatest weight per acre, not less than 20 tons for spring feeding, on any number of acres, not less than five, cultivated in the above method; *five guineas*.

The crops to be viewed before the November meeting.

18. *Improving the Species of Wheat.*—To the person who in the year 1804 or 1805, shall import, or cause to be imported, the greatest number of specimens of foreign wheat, and shall sow not less than one peck of each, (Winchester measure), keeping each specimen entirely separate and remote from any other wheat, to prevent a spurious impregnation, selecting carefully samples of such grain as shall ripen *most early*, or discover any other *superior quality*, preserving it for seed to be sown in September or October following, and the result to be communicated to the Society, with specimens of the grain, and the mode of culture, &c.; *ten guineas*.

19. *The Yellow-blossomed Vetch, &c.*—To the person who shall make and report the most satisfactory experiments on the *Lathyrus Pratensis*, commonly called the yellow-blossomed perennial vetch, the bush vetch, or any other

vetch not generally used in agriculture, sown or planted upon not less than two acres of ground, tending to its introduction as an article of common husbandry; *five guineas*.

N. B. This is not intended to preclude the continued cultivation of the blue vetch; for any new and valuable experiments in the growth and use of which, the same premium is hereby offered.

The crops to be viewed, and claims to be made, at or before the Society's meeting in September, 1804.

20. *Lucerne*.—To the person who, in the year 1804, shall sow and drill with lucerne an entire field or inclosure, not less than four acres, of soil as nearly equal as may be, one-fourth to be sown broadcast, three-fourths to be drilled at different distances. The whole to be kept equally clean and free from weeds, or as nearly so as may be, and equally manured. An exact account to be kept during three years, of the respective cuttings and weight of produce from the different varieties through the whole of the experiment. The said field to be annually viewed by a standing Committee of this Society, and a written statement to be brought to the November meeting, or sent in on or before the first of November 1807; *ten guineas*.

21. *Natural Grasses*.—To the person who, from actual experiments, by separate sowings on measured quantities of land, and by distinct feeding or cutting, shall satisfactorily ascertain, and communicate in writing to this Society, the comparative value of the different natural grasses now in use; the comparison to be both against each other in feeding the different kinds of cattle, and against those usually termed artificial grasses, and green foddering crops, for the same purpose. The best method of culture to be pointed out, together with the soil best adapted to each species; *ten guineas*.

Timely notice to be given to the Secretary of an intention to claim for such experiments, that the Society's inspectors may have an opportunity of observation in the current year.

22. *Succory or Wild Endive*.—To the person who, in the year 1804, shall produce the greatest weight per acre, in proportion to the goodness of the land, of succory or wild endive, on the greatest quantity of land, not less than one acre; and shall report to the Society the nature and culture of the soil, and the effects of that vegetable as a food for neat or other cattle; *five guineas*.

Notice to be given of intention to claim, that a Committee of Inspectors may be appointed at or before the general meeting in June.

23. *Substitute for Broad Clover*.—To the person who, in the years 1804 and 1805, shall introduce and make known to the Society, the best substitute for broad clover, (sainfoin excepted;) or who shall, by actual experiments, discover in what manner lands on which broad clover has of late years generally failed, may be managed so as to admit of that plant being again cultivated thereon with success; *five guineas*.

Claims to be made on or before November the 1st, 1805.

24. *Madder*.—To the person who (not having cultivated that plant) shall, in the autumn 1804, plant the largest quantity of land, not less than two acres, with madder, and in the year 1808, shall produce the largest quantity of the root, cured as well, and which shall be as good for the purpose of *dying*, as that imported from Holland; *twenty guineas*.

A specimen of not less than twenty pounds of the said root to be produced at the Society's meeting in November 1808, with certificates testifying that the rest is of equal quality.

25. *Apple-Trees for Cyder*.—To the person who shall, in the years 1804 or 1805, plant upon his arable land the greatest number of apple-trees for cyder fruit, in direct rows forty yards distant, so as not to prevent the land from being easily ploughed, and shall fence and protect such trees from the bite of cattle; *five guineas*.

No claim to be admitted for a less number than two hundred trees; and any claim for such or a larger number to be made in or before the month of June 1806.

26. *Cyder*.—To the person who, from the growth of 1804, shall make the greatest number, not less than three hogsheads of cyder, from as many different sorts of apples, keeping all the sorts perfectly unmixed; all such different sorts of cyder to be superior in strength, richness and flavour, to any cyder generally made in any part of this kingdom; the whole process to be described to the Society's satisfaction, and the cyder to be tasted and judged by a Committee to be appointed for that purpose, in August following; *twenty guineas*.

27. *Apple Trees from the Seed*.—To the person in either of the Western counties, who shall produce at any general meeting in the autumn of the current year, or of any of the four succeeding years, the best or most valuable samples, not less than five in number, of new varieties of apples raised by himself from the seed, or from trees planted by himself, either for cyder or table fruit; and who shall, if required, favour the Society with a few grafts of each variety; *five guineas*.

Certificates of the facts to be produced, if required.

N. B. The same premium will be given for a similar production of as many new varieties of valuable pears, either for table use or making perry.

28. *Orchard Plantation*.—To the person who, in the year 1804, shall have planted the largest inclosure of pasture ground, not less than two acres, with apple and pear trees, grafted on crab or other stocks of approved use, which shall include the greatest variety of new and valuable sorts of fruit for cyder, perry, and other uses, whether of his own or other person's selecting or improvement. The qualities of the sorts of fruit to be described. One-half or one-third of such land to be kept in pasture for cutting hay and feeding sheep; and the other part or parts to be dug or ploughed, or both, and kept in a state of cultivation for raising potatoes, cabbage, beans, or other field or garden crops, with a view to turning the soil to the greatest profit. The planter to prepare from accurate minutes kept of his progress, and present to the Society, at or before the November meeting in 1807, a satisfactory account of the comparative annual success of his experiments, inclusive of manuring, comparative growth, and the then more or less promising condition of the trees, consequent upon the different modes of managing the soil. The whole to be annually inspected by a Committee of this Society; *ten guineas*.

29. *Fruit-Trees in the Fringes of Pleasure-Grounds*.—To the gentleman resident in any part of the Western counties who shall, in the years 1804 and 1805, have planted at convenient and ornamental distances, in such fringes of trees and shrubs, the greatest number, not less than two hundred, of the best and most approved kinds of young apple and pear trees, on grafted stocks; the names of the fruit to be accurately given, and the plantation to be viewed by a Committee of this Society in the summer of 1805; *five guineas*.

30. *Raising White-Thorn for Quick-Hedges*.—To the person who, in the years 1804 and 1805, shall raise from the haws, or by any other method, the greatest number, not less than one hundred thousand, of white-thorn plants for quick hedges, and shall keep the same clean from weeds till they are fit for transplanting; *five guineas*.

A certificate to be produced of the method of raising, and the number of plants, and the claims to be made, at or before the Society's meeting in October 1807. The plantation to be viewed by the Society's Inspectors.



The maker of the experiment shall not be the owner of any of the sheep ; and in order to excite competition, *five guineas* will be given by the Society to the person whose lot of sheep shall prove most valuable. Should more parcel of any sort of sheep be entered, the right to competition shall be decided by the Secretary by lot : except in the case of the sort No. 6, which shall be selected merely in respect to the superiority of fineness of the fleeces ; such selection to be made at the meeting in June 1804, by a Committee of experienced persons then to be appointed for that purpose.

Notice of an intention to claim shall be given at least one month before the Society's meeting in June 1804, in order that a Committee of Inquiry may be appointed, who shall consist of two experimental farmers, one butcher, and two woollen manufacturers ; which five persons shall have two guineas each for their trouble of repeated inspection, while the animals are living, and for examination and judgment after they are killed. One month's previous notice of the day of killing shall also be given to the Secretary, in order that the said Committee may be properly apprized thereof.

11. *Best Nott and Horned Ram.*—To the person who, in the year 1804, shall exhibit to this Society the best yearling nott ram, bred by himself, and which shall be found to unite the most of those qualities usually considered as requisites in a good sheep ; *five guineas*.

N. B. The same for the best horned ram under similar circumstances. The fleece last shorn to be exhibited at the same time with the ram, in both instances.

12. *Ram Lambs.*—To the person who, in proportion to the number of his stock, shall breed and rear from sound stock, and exhibit to this Society in the year 1804, the largest number of the finest ram lambs for the purpose of improving the breed of sheep in the western counties ; *ten guineas*.

Notice to be given to the Secretary of an intention to claim the premium on or before midsummer day 1804, that the lambs may be viewed as the Society shall direct.

13. *Best Sheep from a Spanish Ram.*—To the person who, in 1804, shall exhibit the best lot (wool and carcase taken together) of shearing sheep, consisting of not less than four wethers, and as many ewes, the produce of a Spanish ram with English ewes, or any cross of them, and not less than four dips from the Spaniard ; *five guineas*.

The fleece of each lot to be exhibited to the examining Committee at the same time with the sheep, and each candidate to specify the quality of the English ewes from which the breed is formed.

14. *Best Fat Sheep.*—To the person who, in the year 1804, shall exhibit to the Society one or more fat sheep bred and fattened by himself, the best for shape and quality of flesh ; and the dead profitable weight of which (tallow included) shall bear the greatest proportion to the weight when alive, and be deemed worth most money per pound ; with an account of the mode and expence of fattening ; to have been fed with grass, hay, roots, or green vegetables some or one of them : the owner to state the age of the sheep ; *five guineas*.

15. *For the greatest number and most profitable sort of Sheep.*—To the stock farmer who shall have bred and kept, in the usual mode of husbandry in the neighbourhood, the greatest number and most profitable sort of sheep in proportion to the size of his farm, in consequence of his having changed his sort of sheep from what had been usually kept on the farm, or on similar farms in the neighbourhood, a premium of *twenty guineas*.

A competition required, or the merits of a single claimant to be of a positive nature.

Notice to be given to the Secretary by each claimant, if there be a competition, at or before the meeting of the Society in April, and the view to be made by a Committee between the 1st and 20th of June.

16. *Medical*

16. *Medical Treatment of Sheep*.—To the person who, on or before the first of November 1804, shall send to this Society an account of the most accurate experiments, to prove how far regimen contributes to the fattening of sheep where the diet is similar. It is proposed that the sheep should be home-fed, that the observations may be more correct. The object is to ascertain how far frequent bleeding in small quantities each time, or the use of salt, tar, or other substances acting as stimulants, affects the general health, alters the wool, or promotes fattening of the sheep; *five guineas*.

17. *Improvement in Swine*.—To the person who, in the year 1804, shall exhibit to the Society the best boar, or sow with her offspring of indefinite number, with an account of the general keep on which they have subsisted: the main object in view being to ascertain the sort which will produce the greatest quantity of valuable weight at the least expence; for either *five guineas*.

18. *Rearing Pigs*. To the farmers who shall, in the years 1804 and 1805, ascertain by experiment, and in proportion to the size and nature of his farm, breed the greatest number of the best sort of pigs, and keep the same till four months old, in either of the western counties; *five guineas*.

Satisfactory proofs of the number so raised to be produced to the Society at or before the November meeting in 1804.

19. *Store Pigs and Hogs*. To the person who, in the years 1804 or 1805, shall write and send to this Society the best account, founded on his own experience, of the most beneficial mode of breeding and rearing store pigs, and of fattening hogs; *three guineas*.

20. *Best mode of using Potatoes in fattening Hogs*. To the person who, by repeated comparative experiments in 1804 and 1805, shall ascertain, and fully impart in writing to the Society, the comparative advantages of fattening hogs by the four following methods:

1. On potatoes boiled in steam alone.
2. On baked potatoes alone.
3. On potatoes boiled in steam, given with grain or flour of grain.
4. On baked potatoes given with such grain or flour.

The hogs to be as nearly alike in previous size and condition as may be; to be weighed when put to feeding in each case, as well as when killed. The quantity of each kind of feed to be particularised in each case; the calculation to be made at fair prices, and plan of proceeding to be alike in both years; not less than three hogs to each experiment; *five guineas*.

Claims to be made on or before the first of November 1805, and affidavits if required, to be made of the accuracy of the accounts.

21. *Cart Horses*. To the person who shall breed and rear for covering, within either of the western counties, the best cart horse; *five guineas*.

22. *Subsisting Working Cattle*. To the person who, by experimental process through one complete year, shall accurately ascertain, to the satisfaction of this Society, the cheapest means of subsisting in good working condition a team of not less than four horses in husbandry. Report to be made in writing previous to the November meeting 1804; *five guineas*.

N. B. The same premium will be given for a team of oxen, not less than eight, under similar conditions.

23. *Mules*. To the person who, during twelve months in the years 1804 and 1805, shall use for the common purposes of husbandry, a number not less than three, of mules not under thirteen hands high; and who shall give in writing to this Society a satisfactory account of the advantages or disadvantages attending the use of those animals, on a comparison with horses or oxen, taking into the estimate an accurate account of the expence of keeping; *five guineas*.

24. *Stocking Pools with the Common Leech*. To the person who, in the year 1806, shall prove to the satisfaction of the Society, that he has stocked

in the western counties with the common leech the greatest number of pools, not less than ten, in which that animal was not before found, and that it has thriven and multiplied therein; *five guineas*.

25. *Comparison between the small and the larger sorts of Animals.* To the person who, by a series of comparative experiments during three years at least, shall prove to the satisfaction of the Society, which are the most profitable to the farmer, and of course to the community, large or small animals, taking in all the different uses of each, the kinds of soil on which they are kept, and the most important characteristic of the animals which determine the preference; *twenty guineas*.

#### CLASS V.—Wool.

No. 1. *Sheep most valuable for Wool.* To the person who, in the years 1804 or 1805, shall fully and clearly ascertain, by fair experimental practice, what race of sheep now known in Britain, either by the present common, or by any other improved method of managing a flock of sheep, will produce, in any or all of the western counties, the largest quantity of the finest and most valuable wool, for the finer woollen manufactures of this kingdom; together with a statement of the comparative value of such wool to the farmer, in respect of the coarser and more common sorts; and who shall state those particulars in writing to the satisfaction of this Society; *ten guineas*.

N. B. The nature of the soil is to be taken into the account.

2. *Greatest number of fine woolled Shearling Rams.* To the person who, in the year 1804, shall exhibit to the Society the greatest number of two tooth'd rams, not less than eight, bred by himself, of any kind, (the unmixed Spanish breed excepted;) which taken together, shall have the most valuable fleeces of clothing wool, in proportion to the weight of the living animals producing them at the time of shearing; *ten guineas*.

3. For the next greatest number, not less than four; *five guineas*.

The rams to be exhibited unshorn, at the general meeting of the Society in June; and their fleeces shorn before the 1st of July, to be produced, with the weight of the rams properly attested, on the day before the annual meeting in December.

When the fleeces are of equal value, in proportion to the weight of the same number of rams producing them, the preference shall be given to that lot, which has the superiority as to the form of the carcase.

4. *Competition between Manufacturers of Navy Blue British Cloth, and Uniform White Kerseymere.* To the manufacturer of the finest piece of navy blue cloth, dyed in the wool, not less than 25 yards, made from the R. wool of any breed of sheep, but the unmixed Spanish, and sorted from the fleece in the Spanish method of R. F. and T., with the name of the grower, and the weight of the three sorts respectively, after they shall have been separately scoured and picked, to be produced on or before the November meeting 1804; *ten guineas*. The fleeces to be sorted at the manufacturers.

*Five Guineas* to the manufacturer of the finest piece of uniform white kersymere, under the same conditions.

5. *Competition between Growers of British Clothing Wool.* To the person from the smallest weight of whose entire fleeces of scoured wool, shorn from his own flock of any sheep bred by himself, except the unmixed Spanish breed, and thrown into three sorts only, after the Spanish method of R. F. and T. shall be made a piece, not less than 25 yards, nor inferior in proportionable quantity to that of other competitors, of the finest and best navy blue broad cloth, dyed in the wool; to be shewn at the first meeting of the Society in November 1804; *eight guineas*.

All the wool to be scoured after sorting; but the R. wool only of the English fleeces to be employed in the fabrick; and all the clothes to be made, in

in comparison with a similar piece from R. Spanish wool, by one manufacturer, to be chosen by ballot by a Committee appointed for that purpose at the general meeting of the Society in June; which manufacturer shall be rewarded with *ten guineas*, for his care in superintending the fabrick, exclusive of his expences in manufacturing the cloths. The said Committee to meet on the second Tuesday in July following, and no manufacturer to be admitted as a competitor who does not, on or before that day, notifying to the Society his intention to become a candidate. All the wool which is intended for the competition to be exhibited in the entire fleeces unwashed, either on the sheep's back, or afterwards, and without any name annexed, at the said meeting in July; when, if the number of specimens exceed *three*, the Committee shall select the three sorts which appear to them to be the finest, and these three sorts only shall be admitted into competition for the premium.

The fleeces to be afterwards sorted in any place, or by any person, at the option of the grower, who must produce satisfactory proofs that the wool which he sends makes up the whole of the fleeces, (dog locks excepted) and no more. The R. F. and T. wool of each candidate must be separately scoured by the manufacturer, and the weight of each sort, when scoured and picked, given into the examining Committee, in order that the proportions of each sort in the fleeces of the respective candidates may be exactly ascertained. The successful candidates are also required to produce to the Society as particular an account as possible of the wool and manufacture.

Premiums of *five* and *eight guineas* respectively, under the same conditions, will be given for the wool, and to the manufacturer of uniform white kerseymere.

In order to extend as widely as possible the views of the Society, it is directed that these two premiums for broad cloth and kerseymere shall be offered in annual rotation to manufacturers in the counties of Dorset, Devon, Somerset, Wilts, and Gloucester, viz. for the county of Dorset, in the year 1804, and so on.

N. B. It is expected that all the broad cloths and kerseymeres shall be manufactured as nearly as possible in the same manner; and that the comparative pieces of Spanish broad cloth and kerseymere shall be exhibited at the same time with them.

6. *The most valuable fleece of Wool from a British Ram.* To the person who shall exhibit to the Society, in the year 1804, shorn the same year from any ram bred in Great Britain, and being his own property, an entire fleece of clothing wool, which shall be of the greatest value in proportion to its weight; *five guineas*.

For a fleece of ewe's wool, under the same conditions; *three guineas*.

7. *Best piece of Navy Blue Broad Cloth from Lamb's Wool of British growth.* To the person, from the wool of whole lambs, bred in Great Britain, and being his own property, shall be manufactured, and exhibited to the Society in the year 1804, the finest and best piece of navy blue broad-cloth, dyed in the wool, and not less than twenty-five yards in length; *eight guineas*.

The proportion of the fleece used in the manufacture, as well as the actual weight of the whole wool, before and after scouring and picking, together with as many particulars as possible of the race of sheep and manufacture, to be produced to the Society properly attested.

#### CLASS VI.—Mechanics.

1. *Invention and Improvement of Ploughs.* To the person who, in the year 1804 shall invent or materially improve any plough, so as to render it superior to any yet known for the common use of husbandry; *five guineas*.

The merit of such plough to be determined by the Committee of farmers, from its performance at the next public trial of ploughs.

2. *Drill*

2. *Drill Machine.* To the person who shall invent and exhibit to this Society, on or before the first of November 1804, a drill machine for general use, more simple and cheap in its construction, and more perfect in its operation than any yet known; *ten guineas.*

3. *Plough for Potatoe Crops.* To the inventor of the best new constructed plough for ploughing up potatoe crops, by which the work may be done with the least loss or damage to the crop; *five guineas.*

The said plough to be sent to the Society on or before the first of September 1804, that trials may be made previously to the meeting in November.

4. *Implement for Draining Arable Land.* To the person who shall invent and produce at or before the next September meeting, any newly constructed plough or implement, better adapted than any yet known in these western counties, for the purpose of striking trenches across ploughed lands having a favourable declivity, in order to their most expeditious draining, prior to sowing after wet seasons: *five guineas.*

5. *Implement for Draining Pasture Land.* To the person who shall invent, and produce at or before the next September meeting, any plough or implement better adapted than any yet known in the western counties, for under-draining pasture lands, and which in suitable soils shall be found to perform that operation well; *five guineas.*

6. *Improved Scarifier.* To the person, being the inventor, who shall produce at the annual meeting 1804, a cheaper and more useful scarifier than any now in use; its merits for that operation to be fully attested; *five guineas.*

7. *Improved Instrument for cutting Grass.* To the person who shall make the greatest improvement in the instruments now used for cutting grass, or who shall make the best instrument for those purposes, on a new and simple construction; *five guineas.* One of the said instruments to be sent to the Society on or before the first of July 1804.

8. *Machine for conveying Green Winter Crops off wet Arable Land.* To the person who shall invent and construct the simplest and most useful machine for conveying green winter crops off wet arable land, by means of which the work may be done cheaper, and with less poaching or other injury to the land, than by any other method now practised; *ten guineas.* The machine, or a complete model of it, to be produced to the Society at or before the meeting in September 1804, and proper time for trial allowed.

9. *New Tumbrel or Cart.* To the person being the inventor, who shall produce at the annual meeting in 1804, any new constructed and valuable tumbrel or cart for carrying manure, or other purposes of husbandry, which shall unite the essential properties of strength, lightness, and cheapness, beyond what have been hitherto discovered; *five guineas.*

10. *Descent of Wheel Carriages.* To the person who shall invent and communicate to this Society on or before the first of November 1804, an easy and effectual mode of retarding and regulating the motion of wheel-carriages in their passage down hill, without fastening up either wheel, so as to prevent the tearing up of the roads, consequent on the present mode, and evident danger from the breaking of the chain; *seven guineas.*

11. *New and improved Chaff-cutter.* To the person who, in the year 1804, shall produce to this Society, at or before the November meeting, a chaff-cutter of his own invention or improvement, which shall be worked with less labour and more dispatch than any cheap chaff-cutter now known, the price not to exceed three guineas; *five guineas.*

12. *Improved Churn.* To the inventor of a better churn than any yet known for general use; *five guineas.*

13. *Any New Tool or Implement.* To the person who, in the year 1804, shall construct, and exhibit to this Society at or before the November meeting,

any tool or tools, implement or implements, entirely new, found to be more useful in any branch of agriculture than any before known for similar purposes; a premium in proportion to the merit.

#### CLASS VII.—*Chemistry.*

1. *Starch.* To the person who, at or before the Meeting in September 1804, shall discover to this Society a mode of making good starch in such quantities as to become generally useful, and at a reasonable price, from any substance or substances not generally used for the sustenance of man, and not hitherto discovered, *ten guineas.* To produce a sample of not less than fifty-six pound.

2. *Marking Sheep.* To the person who shall discover and make known to this Society, any composition which shall be equally lasting with pitch and tar, for marking sheep without injuring the wool; *ten guineas.*

A trial of one year upon not less than twenty sheep, and certificates of its fully answering the purpose to be given in the first of July following the experiment.

3. *Composition for preserving Wood.* To the person who, in the year 1804, shall describe to the satisfaction of this Society, a more cheap and durable composition than any now in common use, for covering and preserving from decay barn and other outside doors, weather-boarding, gates, stiles, and other implements in husbandry; *three guineas.*

4. *Producing light in Mines.* To the person who shall construct an apparatus or machine better than any now in use, for producing sufficient light for working coal or other mines without burning candles or lamps; *ten guineas.*

A model or models of the said apparatus to be produced, and claims made, at or before the meeting of the Society in November 1804.

#### CLASS VIII.—*Useful Arts.*

1. *Substitute for Wheaten Bread.* To the person who, at or before the meeting in April, shall ascertain, by experimental process, to be fully stated, the most wholesome and profitable mixture of flour of other sorts of grain, or other vegetable substances, to be used with that of wheat for making bread for general consumption in times of scarcity; *five guineas.*

2. *Preservation of Wheat.* To the person who shall on or before the second Tuesday in November 1804, discover and make known to the Society the cheapest and most effectual method, not hitherto known or practised, of preventing wheat in ships and store-houses from contracting must, or being damaged by the weevil or otherwise; or for restoring damaged wheat to a wholesome state; to be verified by actual experiments; *ten guineas.*

3. *Italian Method of killing Cattle.* *Five Guineas* will be given to the butcher who, in the year 1804, shall kill the greatest number of horned cattle, sheep and hogs, in the method, and with the instrument used for that purpose at Naples, and recommended by Sir William Hamilton in his letter to this Society. The number of horned cattle so killed to be not less than fifty, and of hogs and sheep not less than one hundred each. The instrument may be seen at the Society's rooms, with directions how to use it.

4. *Rats and Mice.* To the person who shall discover and impart to the Society, on or before the first of November 1804, a more speedy and certain method than any yet known of destroying rats and mice by some mechanical contrivance, or by some substance not detrimental to useful animals or to the human race; *five guineas.*

5. *Destroying Grubs in Land.* To the person who shall discover and communicate to the Society, a method of destroying those large grey grubs in pasture and arable land, from which proceeds the cock-chaffer beetle, or any other grubs injurious to crops, that shall on experiment be found the easiest, most effectual, and least prejudicial to the grubs, or other produce of such lands; *ten guineas.*

A certificate proving that the means used have been successful to be produced, and claims to be made, at or before the Society's meeting in November 1804.

6. *Designs for Farm-Houses.* To the person who, on or before the first of November 1804, shall give six original designs and elevations, (better than any hitherto known) of farm-houses, and conveniently attached and detached offices and buildings, proper for farms of different dimensions, both arable and pasture, and mixed; together with the most accurate estimates of the cost, and the most judicious descriptions and remarks on the general defects and excellencies of farm-houses and offices; *ten guineas.*

7. *Extinguishing Fire.* To the person who, at or before the meeting in Sept. 1804, shall discover, and afterwards demonstrate to this Society, a better method of extinguishing fire than any yet known, and applicable to private as well as public situations; *ten guineas.*

8. *Improved method of Sweeping Chimnies.* To the person who, on or before the November meeting 1804, shall invent, and fully describe, a simple and efficacious method of sweeping or cleaning chimnies that shall prove satisfactory to the Society, without having recourse to the barbarous means now in use, of forcing young boys to ascend, and carry on that dangerous and disgusting business so productive of distortion of the limbs, and other irremediable diseases; *six guineas.*

9. *Improved Lamp.* To the person who shall invent and communicate to this Society on or before the first of November 1804, any material improvement in the article of lamps for lighting streets, so that a much stronger light may be cast on the pavement of the streets, and diffused to a greater distance, at less expence than by the present mode of lighting; *three guineas.*

10. *Comparison of the Bath Small Waggon, and Wiltshire narrow-wheeled Waggon.* To the farmer who from his own experience shall, on or before the first of November 1804, send to this Society a comparative account of the advantage or disadvantage attending the use of the small, compact narrow-wheeled waggon, commonly called the Bath small waggon, not exceeding sixteen hundred weight, used through one whole year, against the narrow-wheeled waggon commonly used in Wiltshire, weighing upwards of twenty-two hundred weight, together with the original costs and wear and tear of each waggon; *five guineas.*

11. *Weights and Measures.* For a standard for adjusting British weights and measures, on a more easy and practicable plan than has yet been proposed, and sufficiently accurate for all the purposes of arts and commerce; *ten guineas.*

12. *Writing Paper and Package Paper.* To the person who, in the year 1804, shall make the greatest quantity, not less than ten reams, or five bundles of writing, or any kinds of the most useful package paper, from vegetable substances, not previously manufactured into thread-cloth or cordage; and which shall be cheaper than similar kinds of paper now in use; *ten guineas.*

Specimens of not less than one ream or bundle of each kind made to be sent to the Society at the meeting in September, when claims are to be made with affidavits of the quantity, and that it is all of the claimant's own manufacture.

#### CLASS IX.—Industry and good Behaviour.

1. *Good Behaviour in Men Servants.* To four men servants in husbandry in the western counties, who, having lived with good characters the greatest numbers of years, not less than seven, shall continue to live three years longer in the same service\*, and produce at the end of that term satisfactory certificates of such good behaviour; *three guineas each.*

\* In case of any servant's being obliged to remove by breaking up of house-keeping, or death of master or mistress, during such three years, if he or she shall bring an unexceptionable certificate from a new master or mistress, the same premium will be given.

2. The same premium, under similar conditions, will be given to each of four women servants in husbandry in the western counties.

3. *Industry.* To four labourers in husbandry in the western counties, not renting more than six pounds per annum each, by whom the greatest number (not less than seven) of their own respective legitimate children have been brought up to at least seven years of age in habits of honest industry; and who have not at any time received relief or assistance from any parish or township; *three guineas each.*

N.B. Certificates and notices, adapted to claimants of the three foregoing premiums, must be sent in before the first of November in each year, according to the respective forms inserted next after the list of premiums.

4. *Industry in Cottagers.* To the cottager, being a day labourer in husbandry, with a family of not less than four children, (the eldest of whom shall not be more than twelve years old) who shall bring proof of their earnings from March 1804 to March 1805, with the age of each child so employed, and a certificate of their good characters from the minister or churchwardens where they reside; *three guineas.*

Claims to be sent in before the tenth of March 1805. The said earnings not to be less than one penny per day under nine years, and two-pence per day above that age.

5. *Friendly Societies.* A premium of *ten guineas* will be given to the most numerous friendly society, consisting chiefly of handicraftsmen and labourers, which shall before the first day of January 1805, have been established in any town or parish, within either of the western counties, where no such society now subsists.

In order to be entitled to this premium, it is required,

1<sup>st</sup>. That its rules shall be conformable to the direction of certain Acts of Parliament passed for the encouragement of such societies.

2<sup>dly</sup>. That the society shall have been established one year, and consist of not fewer than forty members when the claim is made.

3<sup>dly</sup>. That none of the said members shall have belonged to any other club of this kind since the first of January 1800.

4<sup>thly</sup>. That every society intending to claim this premium shall, at the time of its institution, send a fair copy of their articles to this society for inspection before printing them.

5<sup>thly</sup>. That each claim shall be accompanied with a certificate, signed by the minister and churchwardens of the parish; containing a printed copy of their articles, the amount of their stock, and the number of actual members, with their names and occupations.

Claims to be made at the meeting in September 1805.

6. *Cottages for Labourers.* To the land owner in either of the western counties, who shall build in any future year, the greatest number of cheap, desirable, and comfortable cottages, in proportion to the extent of his estate, for poor industrious labourers in husbandry to inhabit, and who shall annex a portion of land, not less than a quarter of an acre to each cottage; *ten guineas.*

N. B. In case of the death of labourers and servants in husbandry, the bounties awarded to them will be granted to their families.

#### CLASS. X.—Essays.

1. *Essay to preserve the Health and Morals of Manufacturers.* To the person who shall write and send to this society on or before the first of November 1804, the best essay on the supposed ill effects of large manufactures in towns on the health and morals of the people, with the most obvious means of correcting them; *five guineas.*

2. *Essay on the best manner of employing the Poor in Work-houses.* To the person who, on or before the second Tuesday in November 1804, shall write, and send to the Society, the best account for publication of the most



practicable and profitable manner of employing the poor in parish work-houses; *five guineas.*

3. *Essay on Marl.* To the person who shall write, and send to this Society on or before the first of November 1804, the best practical treatise or essay, founded on his own experience, on marl and marling land; the same to contain a clear account of the various sorts of marl, their properties, and the best mode of applying them respectively to the various kinds of land capable of being so improved; *five guineas.*

4. *Treatise on Watering Meadows.* To the person who, at or before the meeting in September 1804, shall write, and send to the Society, the best practical treatise on the formation, management, and application of water meadow; *ten guineas.*

5. *Essay on underwood for different Soils.* To the person who shall, at or before the November meeting in 1804, 1805, or 1806, produce to the Society the best essay, pointing out from actual experiments the kinds of underwood most proper for different soils and situations, and which shall answer the best purpose for the different uses in the several counties in which the same shall be planted; and also the age or period of growth at which such underwood may be cut to the greatest advantage; *five guineas.*

6. *Apple Trees.* To the person who shall write, and send to the Society (under the usual regulations) before the meeting in June 1804, the best practical essay, founded on his own experience, on rising apple stocks; and on raising apple trees for the orchard, by grafting or otherwise; *five guineas.*

7. *Making Cyder.* To the person who shall write and send to the Society the best practical essay, founded on his own experience, on gathering in apple, making them into cyder, and managing that cyder until it shall become fit for use; *five guineas.*

8. *Wool* To the person who in the years 1804 or 1805, shall write and send to this Society the most particular and satisfactory account, founded on his own observation, of the effects of different kinds of management, situation, soil, and food, including artificial crops, on the wool of sheep; and shewing how far any improvement or degeneracy in the quality of that important article may be effected by all or either of those causes; *five guineas.*

9. *Improvement in Agriculture.* An honorary reward, proportioned to merit, will be given to the person who, in any of the five years following, shall write the best essay on the improvements in agriculture, that have been successfully introduced into this kingdom within these fifty years past. The said essay to be produced at or before the Society's meeting in September 1808.

10. *Essay on Iron Rail-Ways, compared with Navigable Canals.* For the best essay on the comparative utility of iron rail-ways with navigable canals, for conveying coals and other heavy goods; with an accurate estimate of the expence, and of the advantages and disadvantages of each, and how far the former may with propriety be adopted, in this and the adjacent counties, as a collateral aid, or even sometimes wholly to supersede the latter; *ten guineas.*

N. B. The result of the repeated trials of iron rail-way roads in Derbyshire, Nottinghamshire, Northumberland, &c. may assist the enquiry, if compared with the numerous inland canals.

*Announced between the 20th of January, and the 20th of February, 1804.*

## BANKRUPTCIES.

*The Solicitor's Names are between Parentheses.*

**ALEXANDER**, John, South Lambeth, coal-merchant. (Walton, Girdler's-hill)  
**Bate**, Fortescue, Vigo-lane, Swallow-street, printseller. (Dixon, Nailau-street)  
**Betts**, Benjamin, and Anne Smith, Basinghall-street, factors. (Dane, Threacred's-street)  
**Buhnell**, Thomas, Westminster-road, Surry, wheelwright. (Anthony, Earl-street, Blackfriars)  
**Bosna**, William, Christopher, Finsbury-square, mfrs. (Crowder, Lavie, and Gaith, Frederick-place, Old Jewry)  
**Bales**, William, Bermondsey, flour-facter. (Ripon, Bermondsey-street)  
**Marker**, Samuel, Lane-delph, Stafford, potter. (Robin's, Gray's-inn-place)  
**Bowerbank**, Joseph, Islington, coal-merchant. (Harvey and Robinson, Lincoln's-inn, New-square)  
**Buckles**, John, jun. Warmminster, clothier. (Davies, Warmminster)  
**Baxter**, Matthew, Barnard Castle, innkeeper. (Roffer, Kerby-street, Hatton garden)  
**Bishop**, John, Epfom, linen-draper. (Gale and Son, Bedford-street, Bedford-row)  
**Bennett**, William, Ivy-lane, carpenter. (Pearce and Dixon, Parker-street-row)  
**Bain**, George, Bristol, merchant. (Jenkin, James, and Co. New Inn)  
**Bryles**, Patrick, Vine-street, Flocadilly, printer. (Brewer, Clement's-lane)  
**Bloore**, Whitfield, Sun-street, Bishopgate-street, timber-merchant. (Russell, Aldergate-street)  
**Crabb**, John, Crabb, James, Crabb, William, and Nicholas Larkham, Witton, clothiers. (Lowten, Temple Chivers, William, Steney-caufway, mariner. (Nind, Great Precinct-street)  
**Champion**, James, Henry, Gravesend, grocer. (Rigby, New City-chambers)  
**Chapman**, John, Nottingham, hofier. (Windus and Holta-colls, Robert, Woodford, corn-dealer. (Wright and Bovill, Chancery-lane)  
**Clarke**, John, Tealby, paper-maker. (Grey, Gray's-inn)  
**Crosley**, Thomas, Manchester, dimity manufacturer. (Higginbotham, Ashton-under-lney)  
**Craftsman**, William, Liverpool, money-scrivener. (Windle, Bartlett's-buildings)  
**Cummins**, George, Villier's-street, Strand, victualler. (Dawfon, Warwick-street, Golden-square)  
**Croft**, James, Tibury, carpenter. (Davies, Warmminster Cross, William, Charles, Kensington, brewer and merchant. (Kearley, Temple)  
**Crickbanks**, James, Gerrard-street, metal, fish, and fan-light manufacturer. (Wedel and Day, Gerrard-street)  
**Dougl**, Henry, Golden-leg-court, Chesfide, hofier. (Harrifon, Northumb-street, Strand)  
**Davies**, Samuel, Manchester, dealer in cotton twif. (Cooper and Lowe, Southampton-buildings)  
**Dawwood**, Francis Bateman, Gain's-hill, Huntingdon, worked manufacturer. (Parker, Palmer, and Cuppage, Essex-street)  
**Dennam**, Nathaniel, Lime-street, merchant. (Bourfield, Souverie-street)  
**Danney**, William, Windfor, apothecary. (Smart and Thomas, Staple's-inn)  
**Denton**, Edward, Dyer's-buildings, Holborn. (Burdon, St. Andrew's-court, Holborn)  
**Day**, Thomas, Grove-hill, Beverly, ship carpenter. (Wills, Warfard-court)  
**Emdin**, Abram Compert, Portsmouth, fhopkeeper. (Berry, Walbrook)  
**Emerton**, Thomas, Stony Stratford, grocer. (Hinderley, Long, and Ince, Symond's-inn)  
**Evans**, Philip, Hungerford-market, oyfter-merchant. (Loxley, Cheapfide)  
**Eames**, John, Leicester, cheefe-factor. (Taylor, Southampton-buildings)  
**Ettil**, John, scarborough, fhip-owner (Sanfum, Ely-place)  
**Fineley**, James, jun. Clifton-street, Middlefex, carpenter. (Joas and Turner, Charlotte-street, Fitzroy-square)  
**Fern**, Richard Spencer, Suffolk-lane, dry-filter. (Williams and Sherwood, Bank-street)  
**Forster**, Joseph, Stoke Newington, carpenter. (Jones, Mayole Court-office, Holborn)  
**Forde**, James, Chifwell-street, fhoe-maker. (Russell, Lent-street, Borough)  
**Gregory**, Thomas, Tabernacle-walk, St. Luke's, plumber.  
**Garnau**, Jof Aug. Villier, Alchemare-street, bookfeller. (Queen and Hicks, Bartlett's-buildings)  
**Hewitt**, Henry, Henry Ruch, and Thomas Poffetthwayte, sheffeld, fiver-platers. (Blige, Hatton-garden)  
**Hives**, John, Ilkilton, baker. (Macdougall and Hunter, Lincoln's inn)  
**Hill**, William, Bristol, jeweller. (Edmund's, Lincoln's-lane)  
**Hoffman**, Andrew, Burgefs, Charles-street, Covent Garden-taylor. (Senior, Charles-street)  
**Harrifon**, George, Manchester, merchant. (Ellis, Curfitor-street)  
**Howell**, James, Stratfieldaye, farmer. (Johnfon and Galkell, Gray's-inn)  
**Mayer**, John, late of Bath, butcher, now of St. Thomas's street, Southwark. (Clark, St. Paul's college, St. Paul's church-yard)

Hindley, Richard, and William Wakefield, Manchester, manufacturers. (Foulkes, Bury place, Bloomsbury)  
 Hughes, James, Fletcher, Wigmore street, Stationer. (Shepherd, Bartlett's buildings)  
 Jarrett, Thomas, Evelham, innholder. (Bousfield, Bouverie street)  
 Jones, Richard, Lanvapey, wool dealer. (Price and Williams, Lincoln's-inn)  
 Johnson, William, Vauxhall, coal merchant. (Lamb, Bedford street, Bedford square)  
 Lave, James, Hephonhall, cotton manufacturer. (Edge, Inner Temple)  
 Leeming, Thomas, Preston, John Myers, of Clockheaton, and William Chapman, Preston, worked manufacturers. (Evans, Thavies inn)  
 Lythgoe, Nathan, Liverpool, merchant. (Windle, Bartlett's-buildings)  
 Levy, Jacob Israel, Brighton, merchant. (Howard, Jewry street)  
 Merton, Edward, Elminder, mercer. (Adams, Old Jewry Mail, Thomas, Tempford mills, miller. (Baxter and Martin, Purvis's)  
 Monfate, David, Fleet market, grocer. (Rivers, Basing lane)  
 Marsh, Abfalom, Aldgate, jeweller. (Kibblewhite, Gray's inn place)  
 Meeske, Henry, Edward street, Titchfield street, tailor. (Corren, Clifford's inn)  
 Mills, Purvis's, John Mills, Wood in Saddleworth, merchants. (Batty, Chancery lane)  
 Mereton, Thomas, Homerton, victualler. (Walter and Unwin, Shadwell)  
 Mackenzie, John, City chambers, Bishopgate street, merchant and Wallington, Fore street  
 Petrie, John, and John Ward, Hanworth, dealers. (Jackson, Fenchurch street buildings)  
 Polley, John, St. Giles, Oxford, facking manufacturer. (Bousfield, Bouverie street)  
 Price, John, Finsbury square, merchant. (Williams and Petrie, John, and John Ward, Hanworth, dealers. (Jackson, Fenchurch street buildings)  
 Parrot, William, Jackson, Leighton Buzzard, wine and brandy merchant. (Druce, Billiter square)  
 Parker, John, Sheffield, money scrivener. (Williams, Castle street, Holborn)  
 Porteous, William, Chippenharn, coal merchant. (Houghton, Clement's inn)  
 Pearce, Samuel, late of Crown street, Westminster, now of Exeter, jeweller. (Williams and Brooks, Lincoln's inn)  
 Finch, John Batwick, carpenter and builder. (Constable, Symond's inn)  
 Riefford, John, York, vintner. (Allen and Exley, Furnival's inn)  
 Reddish, Thomas, Bucklersbury, warehoufman. (Foulkes, Bury place, Bloomsbury)  
 Robbins, Mary and Catherine Robbins, Birmingham, fhopkeeper. (Richardfon, Moutmer, Chancery yard)  
 Rogers, Peter, Warrington, fhopkeeper. (Hexley, Temple Ranfome, John, Little Wallingham, fhopkeeper. (Willington and Small, Inner Temple)  
 Riding, Robert, jun. Mine, cotton manufacturer. (Ellis, Curfitor street)  
 Roe, John, Omberley, horse dealer. (Hore, Garlick hill)  
 Roe, Robert, and Christopher Moore, Bristol, merchants. (Frazier, Gray's inn)  
 Smith, Thomas, Gould's hill, Middlefex, linen-draper. (Burroughs, Castle street, Falcon square)  
 Smith, Thomas, Deptford, victualler. (Hafes, George-street, Minor-street, Minors-street)  
 Shelley, Thomas, Stoke, potter. (Badeley, Seale street, Lincoln's inn)  
 Swindells, John, and John Dale, jun. Mottram in Longdenale, cotton manufacturers. (Cooper and Lowe, Southampton-buildings)  
 Sellers, Bez-r. Leonard, Upper Tooting, money scrivener. (Digges, Madox street)  
 Sexton, John, Greenwich, potter. (Bousfield, Bouverie street)  
 Sainsbury, Richard, Bath, coach maker. (Shephard and Adington, Gray's inn square)  
 Sanforth, Samuel, jun. and John Cartledge, Newbold, Chefterfield, potters. (Maddock and Stevenson, Lincoln's inn)  
 Skill, John, Strand, oilman. (Hodgkin, Charles street, St. James's square)  
 Tomlins, William, Lambeth, coachmaker. (Burgoyne and Feilder, Duke street, Groynovr square)  
 Thomas, Charlotte, New Bond street, milliner. (Eves, Chapel street, Bedford row)  
 Townfnd, John, Stones end, Southwark, wine merchant. (Teafdale, Bishopgate street)  
 Taylor, Edward, Blackburn, linen draper. (Dewhurst, Blackburn)  
 Tyler, John, Mountfurel, miller. (Bleadfale and Alexander, New inn)  
 Tree, Samuel, Portsmouth, victualler. (Wilhen, Gray's inn)  
 Townfand, Samuel, Paradise row, Cheifs, victualler. (Wardfworth, Staple's inn)  
 Thacker, Charles, jun. Caifer, feedfman. (Lane, Goldsmith's hall)  
 Trufon, Margaret, Trifon, farmer. (Rabbit, Carleton, Suffolk)  
 Upcott, John, Ridge, Bedminster, grocer. (Tarrant and Mouie, Chancery lane)  
 Vince, Edfon Anthony, Grimfhead, merchant. (Evans, Thavies inn)  
 Winterburn, Thomas, Whitley, fhopkeeper. (Cardale, Wallfird, and Spear, Gray's inn)  
 Wild, Christopher, Manchester, victualler. (Shephard and Adington, Gray's inn)  
 Wood, Robert, and George Payne, Liverpool, wholefale grocers. (Atkibion, Chancery lane)

Wright,

Wright, John, Gosport, grocer. (Tarrant and Moule, Chancery lane  
 Weedon, Joseph, Oxford Street, oilman. (Teeddale, Bishopsgate Street  
 Willis, John, Great Queen Street, druggist and surgeon. (Ayrton, Field's Court, Gray's Inn  
 Walker Samuel, Manche er, cotton manufacturer. (Hurd, King's bench walk, Temple  
 Williams, James, Haverfordwest, shopkeeper. (James, Gray's Inn Square  
 Wheeler, John, Wednesbury, iron master. (Kosser, Kirby Street, Hutton garden  
 Ward, Daniel, and Robert Daniel Ward, Bishopsgate Street, tailors. (Willsett and Annesley, Finsbury Square  
 Willmott, William, High Street, Southwark, Stationer. (Swaine and Stevens, Old Jewry  
 Wood, Thomas, Dorchester, ironmonger. (Blandford and Sweet, Inner Temple  
 Willis, Thomas, Bath, carpenter. (Pearsons, Pump Court, Temple  
 Wright, William, Broadway, Westminster, victualler  
 Wixon, William, Writtenhall, excise and liquor merchant. (Biggs, Hutton garden  
 Wheeler, John, Wheeleigh, Essex, dealer. (Wharton and Dyke, Temple  
 Wallers, Thomas, St. Paul's, Shadwell, bulfcuit baker. (Walter and Lewis, Shadwell  
 Wilkinson, John, Jun. Lower Grove Road place, dealer. (Watkins and Cowper, Lincoln's Inn  
 Williamson, John, Liverpool, chemist, engrgr. (Royle, Liverpool  
 Young, John, Long Acre, coachmaker. (Dennetts and Greaves, Henrietta Street, Covent garden  
 Young, James, Southampton, linen draper. (Nicholls and Nettleship, Queen Street, Cheap side

## DIVIDENDS ANNOUNCED.

Anderfon, Charles, Grosvenor mews, hackney man, March 13  
 Allen, James, Bartlett's buildings, Holborn, tailor, May 15  
 Aynsley, Jacob, Newcastle upon Tyne, wooldraper, February 21  
 Browne, George, and Henry Browne, Liverpool, March 16, final  
 Bird, Henry Merring, and Benjamin Savage, Jeffries Square, January 30  
 Barker, John, Fieldhead, woodmonger, February 16  
 Barfoot, William, and Thomas Barfoot, Coleman's Street, grocers, March 1, separate estate of William Barfoot  
 Bowring, Herbert, St. James's Street, silk mercer, March 3  
 Bull, James, Edward Bowyer, City Road, baker, March 3, final  
 Burnett, Edward, and Robert Oliver, Manchester, drapers, March 16, final  
 Bennett, John, Norton, shipwright, March 5  
 Blaxwell, Arthur, Kelsale, farmer, March 10  
 Becks, Andrew Berkeley, Green Street, upholster, March 3  
 Boorman, John, Headcorn, timber merchant, March 20  
 Beckley, John, Southampton, grocer, April 5  
 Baylis, Joseph, Upon on Severn, carpenter, March 8, final  
 David, John, Tottenham Court, stone mason, March 10  
 Budd, William, Uxbridge, innholder, March 24, final  
 Burkill, Miss, Gray's Thurrock, Essex, and Three Cranes Wharf, London, soap manufacturers, February 25, final  
 Benedide, Martin, Liverpool, shopkeeper, February 21, final  
 Bevington, Samuel, Gracechurch Street, merchant, February 17, final  
 Biff, William, Haymarket, grocer, February 18, final  
 Boley, Richard, John, Chelms, schoolmaster, February 28, final  
 Banton, Edmund, Lancaster, merchant, (surviving partner of John Clapham, island of Martinique) February 28, final  
 Brown, Zachariah, and Samuel Fiden, Coleman Street, merchants, April 25, final  
 Cooper Henry, Sandwick, linen draper, February 25, final  
 Cullingworth, Sarah, Davenport, bookseller, February 27, final  
 Clayton, John, Sedgework, mealman, March 17, final  
 Clarke, Robert, King Street, Covent garden, linen draper, April 9  
 Comber, Richard, Lewes, watchmaker, March 10, final  
 Carver, Thomas, Bedford, baker, March 13, final  
 Colles, Michael, and Thomas Lewis, Hutton garden, navy agents, March 23, final  
 Curtis, John, and John Stephens, Penryn, shopkeepers, February 25  
 Dyer, Jonah, Wotton under Edge, spinning machine maker, February 29, final  
 Davies, William, Liverpool, plasterer, March 5  
 Dupanel, Louis, Finsbury, umbrella maker, March 6  
 Debreth, John, Piccadilly, bookbinder, March 24  
 Dinham, William, Bristol, merchant, March 9, final  
 Dorset, George, John Johnson, John Wilkinson, William Berners, and James Tilton, New Bond Street, bankers, February 28  
 Deacon, John Eden, New Bond Street, linen draper, February 25  
 Entwistle, William, Entwistle, cotton manufacturer, February 24, final  
 Fearnside, Elizabeth, Tunal, grocer, February 20  
 Favence, Peter, Bedford row, insurance broker, February 28  
 Fox, Jonathan, and William Fox, Pavement, Finsbury, merchants, March 6  
 Fox, William, Wardour Street, cabinet maker, March 3  
 Foster, Isaac, Bartlett's buildings passage, Goldsmith, March 13  
 Fenwick, Thomas James, Penzance, linen draper, February 25  
 Farmer, Edmund, jun. Stratford, butcher, February 25

Farquhar, John, Cavendish Court, Devonshire Square, merchant, April 28, final  
 Gibbs, John, Wrotham, corn chandler, February 28  
 Ginnard, Samuel, Exeter, dyer, February 11  
 Gilbert, Robert, Manchester, manufacturer, February 28, final  
 Geaves, Richard, Dartmouth, merchant, March 1  
 Green, John, Barborne, nail ironmonger, March 7, final  
 Gough, Peter, Birmingham, butcher, March 6  
 Grayson, John, Eastcheap, insurance broker, March 20  
 Gardner, Henry Samuel, Wardour place, Doctor's common, weaver, February 18, final  
 Gilbert, William, Chifwell Street, grocer, March 3  
 Hughes, Morgan, Mourning lane, milkman, February 14  
 Huddleston, William, Manchester, draper, February 8  
 Harper, James, of Ordsley malt mill and bayonet maker, March 3  
 Herinshaw, Richard, Palace wharf, Lambeth, corn dealer, March 17  
 Harris, James, Exeter, coachmaker, March 13  
 Heuchan, John, Liverpool, dealer in muffs, March 11  
 Hicker, William, of the Free Press, the Palace of the Archbishop of Canterbury, carpenter, February 11  
 James, John, sen. Nottingham, cotton spinner, February 27  
 Jones, Joseph, Wood Street, Leghorn hat warehouseman, February 25  
 Lloyd, Richard, Thavies Inn, scrivener, February 15  
 Lowe, Charles, Jun. South, miller, February 16, final  
 Leigh, Robert, Hampton, cooper, February 27, final  
 Lewis, Richard, Cudford St. Peter, shopkeeper, March 3  
 Lane, John, Thomas Fraser, and Thomas Boylston, Nicholas lane, merchants, March 10  
 Lamb, George, Chatham, tailor, March 24, final  
 Lewis, Henry, and William Chambers, Rathbone place, shopkeepers, March 10  
 Lanton, George, Liverpool, merchant, March 24, final  
 Lunsdale, Thomas, Lower Brook Street, linen draper, March 20  
 Larkin, Charles, Rochester, coachmaker, February 25  
 Mills, Philip, Hereford, butcher, March 3  
 Mafon Isaac, Deptford bridge, upholster, April 9  
 Murray John, Shereague lane, merchant, February 25  
 Morley Samuel, Fleet Street, tailor, February 25, final  
 Nesbitt John, Edward Stewart, and John Nesbitt Jun. Aldermanbury, merchants, separate estate of Nesbitt sen. February 4 and 28  
 Noble Nicholas Bernier, Greykoke, butter factor, February 15  
 Nuth Mark, Wotton under Edge, currier, February 29, final  
 Neale John, and Peter Tanner, Cock hill, Ratcliffe, coal dealers, March 3  
 Noble Isaac, Penrith, ironmonger and grocer, February 20  
 Paffman John, Doncaster, machine maker, February 13  
 Powell Thomas, Warwick Street, Golden square, taylor, March 10  
 Perrins William, Bedford, maltster, March 8, final  
 Packer Nathan, West Auckland, brandy merchant, March 31  
 Parfouage Samuel, Manchester, plumber, February 24  
 Pourtales, Andrew, Paul, and Andrew George Pourtales, Broad Street buildings, merchants, February 18  
 Robins, James, and James Anderson, Water lane, glass sellers, February 25, final  
 Reynolds, John, Cheshunt, Herts, brewer, February 25  
 Roberts, John, Piccadilly, bookseller, March 7, final  
 Richardson, John, Chesterfield, liquor merchant, March 26, final  
 Sykes, Richard, Cheap side, linen draper, March 1, final  
 Smith Rogers, Bradford, Wilts, victualler, February 13, final  
 Snape Joseph, Snellon, baker, February 20  
 Smart James, Preston, Hanover Street, Hanover Square, taylor, February 21  
 Scales, Richard, Bruntcliffe, Batley, spirit merchant, March 5  
 Suart, Hugh, Knuzden Brook, Blackburn, Whitler, February 27  
 Staples, Luke, Wapping, Staffordshire, warehouseman, April 9  
 Smith William, and John Ashton, Newgate Street, linen drapers, April 17  
 Sidebottom, William, Ashton under Line, shopkeeper, March 13, final  
 Symons Roel, Dover, shipbroker, March 20, final  
 Sheriff, James, Hutton garden, merchant, February 18  
 Thomson Andrew, and Barth White, Bow lane, wholesale butlers, February 15  
 Toller, James, Finch lane, broker, February 11  
 Toy Thomas, Finsbury, linen draper, March 25, final  
 Torrance George, Jermyn Street, merchant, April 17  
 Tremlet William, Totnes, shopkeeper, March 7, final  
 Thomas, Thomas (partner with John Hunter and Peter Laitham) Camomile Street, March 30  
 Thurston Hugh, Whitechapel, April 2  
 Treppas W. sen. Martin's Lane, bookseller, March 6  
 Taylor W. Be. Wolverhampton, joiner, Feb. 23, final  
 Van Dyck, P. Dublinensis, Arnold John Gevers Leuven and Wynand Adriaen de Gruiter Vink, Circus, Minorities, merchants, separate estates of Leuven and de Gruiter Vink, March 27, separate estate of Leuven, March 21 and 28; separate estate of de Gruiter Vink, March 23 and 29  
 Wigfield James, Jun. Northallerton, mercer and grocer, February 18, final  
 Worboys Arthur and Thomas Sydes, Birmingham, sword cutlers, Feb. 17  
 West John, Long Acre coachmaker, Feb. 15, final  
 Webster W. Fore Street, linen draper, March 1  
 Wilde James, John Watts, and John Body, Upper Thames Street, sugar refiners, separate estate of Watts, Feb. 26  
 Wood Richard, Saltswalk, cornfactor, Feb. 15  
 Wilson J. Birmingham, grocer, April 14  
 West John, Somer's place, East, plasterer, March 10  
 Wright Thomas, Horley, clothier, March 10  
 Warren George, Coventry Street, upholster, May 24  
 Wright Daniel, Little Alms, Flax dresser, Feb. 25

LONDON PRICES OF GRAIN for *February, 1804.*MARK-LANE, *Monday, February 6.**Price of Grain, on board Ship, as under.*

OUR Market to-day has not an over-abundant supply of Grain; Wheat of good quality is full as dear as on Monday last, with a few samples of fine Old and Dantzic selling at better prices than quoted below: the Ordinary still remains heavy, though at no reduction. The same may be remarked of Barley and Malt, both flat, and the latter difficult of sale. White Peas continue at last week's prices; but Grey Peas and Beans of both sorts are dearer. Oats come rather sparingly to hand, and keep their price. Flour is at 45s. per sack.

Wheat	40s to 54s	Malt	52s to 57s od	Grey Peas	36s to 40s od
Fine	56s to 57s 6d	Oats	18s to 23s	Small Beans	33s to 38s od
Rye	28s to 31s od	Polands ditto	24s to 25s od	Ticks	30s to 34s od
Barley	20s to 25s od	White Peas	40s to 46s od		

*Monday, February 13.*

Our arrivals of Wheat to-day have been very considerable, and prices since last Monday have again declined; Fine, 2s. and the Ordinary, 3s. per quarter, on the average. We have likewise a very great supply of Barley, which, with Malt, is cheaper. White and Grey Pease are rather lower; as are Horse and Tick Beans. In short, Oats, Flour, and every article in the Market, have fallen since this day fortnight.

Wheat	28s to 51s	Malt	47s to 54s od	Pearls	45s od
Fine	52s to 53s od	Oats	17s to 21s	Grey Peas	27s to 30s od
Rye	28s to 31s	Polands	22s to 23s od	Small Beans	33s to 37s od
Barley	17s to 22s 6d	White Peas	26s to 32s	Ticks,	21s to 26s od

*Monday, February 20.*

The proportion of fine Wheat continuing small, in comparison with the coarse and ordinary samples, compels a repetition of nearly the same language as used for several weeks past, and which in effect is, that the fine sells freely at last week's prices, but the ordinary, of which we have large supplies, is dull of sale; we, however, have no reduction of price to notice in this article, nor in Barley nor Malt. Pease, of the different sorts, are rather dearer. A slackness prevails in New Beans, but the Old remain steady. Good Oats, of which there is no scarcity, fell nearly at last Monday's prices: the inferior dull.

Wheat	36s to 54s	Malt	51s to 57s od	Pearls	44s od
Fine	55s to 56s od	Oats	19s to 23s	Grey Peas	33s to 36s od
Rye	28s to 31s od	Polands ditto	24s to 25s od	Sm. Beans,	33s to 38s od
Barley	20s to 25s od	White Peas	37s to 42s od	Ticks,	32s to 35s od

*Monday, February 27.*

We have had a pretty good supply of Wheat at Market to-day: the disproportion between the fine and coarse still continues, hence the former fetch better prices, and the ordinary sells, as of late, but heavily. The fine may be stated at 1s. per quarter dearer, but we have no advance on the other sorts. Barley and Malt do not sell so well, and hardly maintain last week's prices.

In Pease, except for fine Pearls, prices are lower. Horse Beans have a better sale than last week. Oats sell freely, and are something dearer. The nominal price of Fine Flour, is held at 40s. and 45s.; but the actual sales are at no more than 43s.

Wheat	28s to 45s	Malt	47s to 54s od	White Peas	28s to 34s od
Fine	50s to 55s od	Oats	17s to 22s	Grey Peas	27s to 30s od
Rye	28s to 31s	Polands	23s to 24s od	Sm. Beans,	30s to 35s od
Barley	18s to 23s 6d			Ticks	26s to 30s od

**Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for February, 1804.**

<b>Price of Hops.</b>		<b>First Week</b>		<b>2d Week</b>		<b>3d Week</b>		<b>4th Week</b>	
<b>Bags.</b>		<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>
Kent	—	90 to	110	95 to	110	96 to	110	98 to	110
Suffex	—	90 to	105	90 to	100	92 to	100	96 to	102
Essex	—	90 to	105	90 to	110	96 to	110	96 to	118
<b>Pockets.</b>									
Kent	—	108 to	126	110 to	126	110 to	126	108 to	126
Suffex	—	105 to	129	105 to	114	105 to	112	105 to	114
Farnham	—	140 to	200	140 to	189	— to	—	120 to	189
<b>Seeds.</b>									
Red Clover per cwt.	—	40 to	100	60 to	100	60 to	98	60 to	94
White Clover, ditto	—	70 to	126	60 to	126	70 to	120	70 to	126
Trefoil, ditto	—	20 to	66	40 to	68	40 to	66	40 to	65
Carraway ditto	—	60 to	70	60 to	70	60 to	70	60 to	70
Coriander ditto	—	16 to	20	16 to	20	16 to	20	16 to	20
Turnip, (per bushel)	—	20 to	28	20 to	28	20 to	28	20 to	28
Canary Seed	—	8 to	9	8 to	9	8 to	9	8 to	9
White Mustard Seed	—	12 to	14	12 to	14	12 to	14	12 to	14
Brown ditto	—	12 to	16	12 to	16	12 to	16	12 to	16
Rape Seed, (per last)	—								
<b>Meat at Smithfield,</b>		<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>
To sink the offal, p. ft. 8lb.									
Beef	—	4 4 to	5 6	4 4 to	5 8	4 4 to	5 8	4 4 to	5 8
Mutton	—	4 8 to	5 1	4 4 to	5 8	4 8 to	5 6	4 8 to	5 6
Veal	—	6 0 to	8 0	5 6 to	7 6	5 0 to	7 0	5 0 to	6 6
Pork	—	4 0 to	5 0	3 0 to	4 4	3 4 to	4 4	3 4 to	4 8
Lamb	—	0 0 to	0 0	0 0 to	0 0	0 0 to	0 0	0 0 to	0 0
Head of Cattle—Easts about	—	2,000		2,000		2,000		1,800	
— Sheep	—	11,000		13,000		13,500		15,500	
<b>Price of Leather.</b>		<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
Butts, 50lb. to 56lb. each	—	20½ to	21½	20 to	21	20 to	21	20 to	21
Ditto, 60lb. to 65lb. each	—	22½ to	23	23 to	24	23 to	24	23 to	24
Merchants Backs	—	19½ to	20	19 to	20	19½ to	20	19½ to	20
Dressing Hides	—	22 to	23½	22 to	24	21 to	22½	21 to	22
Fine Coach Hides	—	24 to	25½	24 to	25	23 to	25	23 to	24
Crop Hides for cutting	—	22 to	23	22 to	23½	21 to	23	22 to	23½
Flat Ordinary	—	20½ to	22	20½ to	21½	20 to	21½	21 to	22
Calf Skins, 30 to 40lb. p. doz.	—	28 to	33	28 to	33	28 to	35	28 to	35
Ditto, 50lb. to 70lb. do.	—	28 to	32	29 to	33	28 to	33	28 to	33
Ditto, 70lb. to 80lb. do.	—	28 to	30	28 to	30	28 to	30	28 to	30
Sm. Seals (Greenland)	—	42 to	45	42 to	45	42 to	45	42 to	45
Large do.	—	51 to	71	51 to	71	51 to	71	51 to	71
Tanned Horse Hides	—	18s to	30s	20s to	30s	20s to	30s	20s to	30s
Goat Skins per doz.	—	—s to	—s	—s to	—s	—s to	—s	—s to	—s
<b>Price of Tallow.</b>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
St. James's Market	—	4	9	4	10	4	10	4	9½
Clare Market	—	4	9	4	10	4	10	4	10
Whitechapel Market	—	4	8	4	7½	4	9	4	9½
Per stone of 8lb. Average	—	4	8½	4	9	4	9½	4	9½
Town Tallow	—	70	0	80	0	81	6	81	6
Russia ditto (Candles)	—	78	0	77	0	77	6	76	0
Russia ditto (Soap)	—	73	0	72	6	73	0	72	0
Melting Stuff	—	63	0	63	0	64	0	62	0
Ditto rough	—	46	0	46	0	44	0	44	0
Graves	—	14	0	14	0	14	0	14	0
Good Dregs	—	12	0	12	0	12	0	12	0
Yellow Soap	—	84	0			84	0	84	0
Mottled ditto	—	92	0			92	0	92	0
Curd ditto	—	96	0			96	0	96	0
Candles, per dozen,	—	12	6			12	6	12	0
Moulds	—	13	6			13	6	13	0

**AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per boll, of 140 pounds Avoirdupoise:**  
*From the Returns received in the Week, ended FEBRUARY 18, 1804.*

**INLAND COUNTIES.**

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	52	2			23	5	24	6	32	11	37	1		
Surrey	52	8	30	0	23	7	22	10	35	0	36	6		
Hertford	48	6	35	6	21	2	19	8	32	0	35	6		
Bedford	46	1	28	0	19	6	19	1	28	0	32	4		
Huntingdon	42	4			18	8	17	4	25	11	30	4		
Northampton	50	0	31	6	19	0	18	0	28	3	32	0		
Rutland	53	0			20	0	18	0	32	6			57	3
Leicester	52	2			21	4	18	7	33	10	35	9	35	4
Nottingham	57	0	32	0	24	7	19	10	34	0				
Derby	59	0			26	0	20	4	39	2	42	0	25	5
Stafford	52	4			25	3	20	10	41	5			31	7
Salop	47	3	35	4	23	2	22	0		0	42	6	63	7
Hereford	43	8	32	0	23	7	22	7	42	1	59	3	59	3
Worcester	44	10	31	6	23	10	23	9	39	6	45	7		
Warwick	53	4			24	4	21	10	39	2	49	10	45	3
Wilts	50	4			23	8	20	10	40	0	35	0		
Berks	52	1			22	4	22	4	34	3	33	6		
Oxford	48	4			20	10	19	6	31	0	33	6		
Bucks	50	3			21	7	21	0	28	7	31	3		
Brecon	47	2	32	0	24	0	18	4			34	8	35	11
Montgomery	46	5			20	9	15	9			37	4	38	2
Radnor	45	5			23	11	21	5			41	3	67	10

**Maritime Counties.**

Essex	51	0	28	0	19	11	22	8	30	1	28	0		
Kent	53	4			24	8	25	4	31	7	33	0		
Suffex	52	4			25	0	24	8						
Suffolk	45	4	29	10	19	8	20	2	26	5	30	10	47	11
Cambridge	41	1	24	8	19	5	14	6	25	7	27	2		
Norfolk	43	8	26	0	19	0	17	8	28		30	11		
Lincoln	45	10	30	6	21	5	16	1	28	4				
York	46	7	35	0	22	3	18	7	35	3	66	8	36	8
Durham	47	7			27	7	20	5						
Northumberland	44	8	30	10	22	5	19	7			32	4		
Cumberland	52	2	40	4	24	6	21	2						
Westmorland	52	10	43	6	25	4	20	8						
Lancaster	52	2			26	6	22	9	43	0	44	10	19	4
Chester	51	0			28	4	21	8					18	11
Flint	50	4			28	6	18	10			33	4		
Denbigh	54	6			26	7	19	6	48	8	35	3	35	7
Anglesea					22	0	15	0						
Carnarvon	58	8			24	8	18	6					34	11
Merioneth	54	2	44	0	24	0	17	8			40	0	34	11
Cardigan	55	0			18	0	13	4			40	0		
Pembroke	44	4			18	10	12	4						
Carmarthen	56	6			21	6	15	0						
Glamorgan	55	9			26	1	20	3						
Gloucester	46	5			21	7	19	3	34	3				
Somerset	52	11			23	6	19	10	32	0				
Monmouth	49	5			25	0	19	2						
Devon	56	10			22	10	22	11						
Cornwall	53	8			24	8	18	6						
Dorset	49	8			21	8	23	1	40	0				
Hants	48	0			23	2	22	3	36	3				

**PRICES OF COALS AT THE COAL EXCHANGE, LONDON.**  
For FEBRUARY, 18c4.

Names of Coals.	Frid. 27th s. d.	Mon. 30th s. d.	Wed. 1st s. d.	Frid. 3d s. d.	Mon. 6th s. d.	Wed. 8th s. d.	Frid. 10th s. d.	Mon. 13th s. d.	Wed. 15th s. d.	Frid. 17th s. d.	Mon. 20th s. d.
Adair's Main				46 6							
Baker's Main											
Bedford Main											
Benton				45	46 6				47		
Biddick Main					48	50				49 6	49
Bigg's Main				46 6							
Bladon Main					46						
Blyth											
Boundry											
Bourn Moor											
Brandling	44			45	46						
Birtley											
Byker											
Byker, High & Low											
Cowpen											
Derwent											
Eden Main											
Eighton Main											
Flockton											
Greenwich Moor											
Haigh Moor											
Hartley											50
Heaton Main				46 6				47 6	49		
Hebburn Main				46 6				47 6			49
Holywell						47 6	47 6				
Kenton Main				46 6	48	47	47 6	47 6	49		49
Lambton's Low dit.										49	
Lawion's Main											
Mo ley Hill											
Montague Main				43	45						
Mount Moor											
Murton											
Murton High Main											
Newbottle											
New Tansfield											
Pitt's Tansfield M.						50	50	50			50
Primrose											
Pontop											
Percey											
Rectory											
Ruffel's Main											
Sheriff Hill											
South Moor											
Stanley Main											
St. David											
Team											
Tyne Main											
Usworth Main											
Walbottle Moor											
Walker											
Wall's End		48 6	48 6	46 6	49	48		48 6	59	51	50 6
Warwick											
Whar-ton											
Willington					48						
Wy am Moor											
Wensworth											
Whitefield											
Main Wooler											

A TABLE of the Prices of STOCKS in February, 1864.

1864	Bank Stock.	3perCt. R.d.	3perCt. Confols.	4perCt. Confols.	5perCt. Navy.	5perCt. Loyalty	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irish 5 pr. Cent	Omnium.	India Stock.	English Tickets.	Consols Account
Jan. 31	154½	56½	56½	72½	88½	92½	16 7-16	3 5-16	55½	9½	2½	2½	170	25 00 0	56½
Feb. 1	153½	56½	55½	72½	88½	92½	16 7-16	3½	55	9 7-16	3	3½	167½	20 10 0	56½
3	153	56	55½	72	88½	92½	16 7-16	3 5-16	54½	9½	3½	3½	168	17 6 0	55½
6	152	55½	55½	72	88½	92½	16 7-16	3 5-16	54½	9½	3	3	158½	17 6 0	55½
7	152	56½	55½	72½	88½	92½	16 7-16	3 5-16	55½	9½	3½	3½	169	17 6 0	55½
8	152½	56½	55½	72½	88½	92½	16 7-16	3 5-16	54½	9½	3	3	167½	17 6 0	55½
9	153	56½	55½	72½	88½	92½	16 7-16	3 5-16	55	9½	2½	2½	169	17 6 0	55½
10	153	56½	55½	72½	88½	92½	16 7-16	3 5-16	55	9½	2½	2½	167½	17 6 0	55½
11	153	56½	55½	72½	88½	92½	16 7-16	3 5-16	55	9½	2½	2½	167½	17 6 0	55½
13	152½	56½	55½	72½	88½	92½	16 7-16	3 5-16	54	9½	5	5	167½	17 7 0	55½
14	152½	56½	55½	72½	88½	92½	16 7-16	3 5-16	54½	9 7-16	4½	4½	167½	17 7 0	54½
16	151½	55½	55½	71½	87½	92½	16 7-16	3½	54½	9 7-16	4½	4½	168½	17 7 0	55½
17	151½	55½	54½	71½	87½	92½	16 7-16	3½	54½	9½	3½	3½	168½	17 7 0	55½
18	151½	55½	55	71½	88	93½	16 7-16	3 7-16	54½	9½	3½	3½	968½	17 8 0	55½
20	152	55½	55½	72½	88½	93½	16 7-16	3 7-16	54½	9½	3½	3½	169	17 8 0	55½
21	152	56	55½	72½	88½	94	16 7-16	3 7-16	54½	9½	3½	3½	169	17 8 0	55½
22	152½	56	55½	72½	88½	94	16 7-16	3 7-16	54½	9½	3½	3½	169	17 8 0	55½
23	152½	56	55½	72½	88½	94	16 7-16	3 7-16	54½	9½	3½	3½	169	17 8 0	55½
25	152½	55½	55½	72½	88½	94	16 7-16	3 7-16	54½	9 7-16	3½	3½	169	17 8 0	55½
27	152½	55½	55½	72½	88½	94	16 7-16	3 7-16	54½	9 7-16	3½	3½	169	17 8 0	55½
28	153	55½	55½	27½	88½	94½	16 7-16	3 7-16	54½	9 7-16	3½	3½	169	17 8 0	55½

T. BISH, STOCK-BROKER, Old State-Lottery Office, No. 4, Cornhill, London.



*Prices of Raw Hides, Hay and Straw, &c. for February, 1804.*

	First Week		2d Week		3d Week.		4th Week.	
	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
<i>Raw Hides.</i>								
Best Weifers & Steers, pr ft.	0 0	to 0 0	3 8	to 4 0	0 0	to 0 0	0 0	to 0 0
Middling — —	0 0	to 0 0	3 4	to 3 6	0 0	to 0 0	0 0	to 0 0
Ordinary — —	0 0	to 0 0	3 0	to 3 2	0 0	to 0 0	0 0	to 0 0
Market Calf — —	—		10 6		—		—	
Eng. Horse — —	—s	to —s	14s	to 17s	—s	to —s	—s	to —s
Sheep Skins — —	0 0	to 0 0	4 0	to 8 0	0 0	to 0 0	0 0	to 0 0
Lamb Skins — —	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
<i>Prices of Hay and Straw.</i>								
St. James's—Hay —	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.
Straw — —	4	16 0	4	16 6	5	0 6	4	15 0
Whitech.—Hay —	1	11 6	1	11 6	1	16 0	1	14 6
Clover — —	4	16 0	4	16 0	4	15 0	4	15 0
Straw — —	5	18 0	5	18 0	5	15 0	6	0 0
	1	11 6	1	12 0	1	12 0	1	12 0
<i>Newbury.</i>								
Wheat — — —	40s	to 56s	40s	to 58s	39s	to 56s	33s	to 56s
Barley — — —	18s	to 22s	19s	to 22s	18s	to 22s	20s	to 24s
Oats — — —	17s	to 21s	17s	to 21s	16s6d	to 20s	17s	to 21s
Beans — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
New ditto — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Peas — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
<i>Salisbury.</i>								
Wheat — — —	46s	to 52s	46s	to 52s	48s	to 52s	48s	to 52s
New ditto — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Barley — — —	20s	to 24s	20s	to 23s	20s	to 24s	20s	to 24s
Beans — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Oats — — —	19s	to 23s	19s	to 23s	20s	to 23s	19s	to 23s
Peas — — —	—s	to —s	—s	to —s	—s	to —s	—s	to —s

## TO OUR CORRESPONDENTS.

WE thank Agricola Norfolciensis for the duplicate he has sent of the letter addressed to us the preceding month, which from some accident never arrived at our Office.

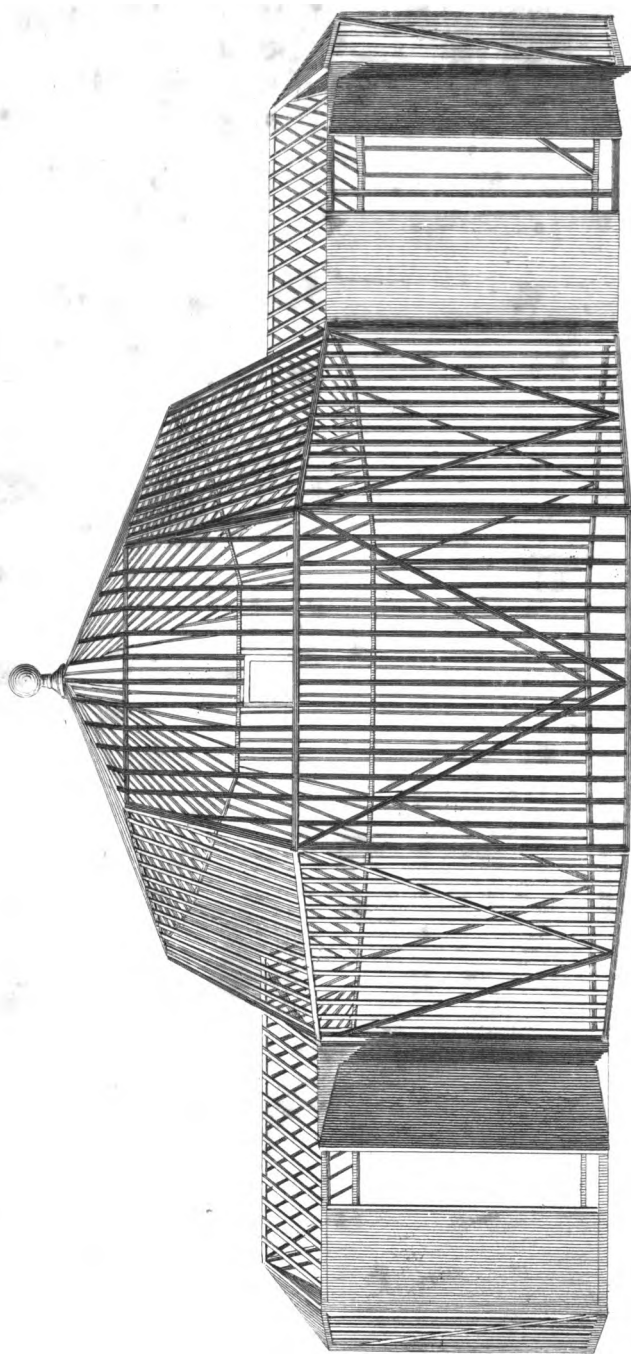
We have received a letter from a "Northern Farmer," and feel ourselves much indebted to him for his assistance: we must, however, postpone the insertion of his communication to a future opportunity, as Agricola Northumbriensis and Meridionalis have so fully and ably discussed the subject in the few preceding Numbers.

From Agricola Northumbriensis, dated the 17th of February, we have received a correction of his paper much too late to notice in the body of the Number, we therefore introduce it here, "since (says this correspondent) I wrote to you, I have been informed that the Corn Laws are again in force; therefore, I see, that what is stated in one of my Letters, as to our ports being open for importation, and exportation being prohibited, is not strictly true."

We have received the communication of Veterinarius Alter.

The paper of Chorographus in the way of Appendix, we wish particularly to receive early next month,





*Wells & Co. Strand.*

## MODEL of a BARN.

*by Mr. Henry Dobson, of the City of Norwich.*

*Published by T. Griffiths, Paternoster Row, Mar. 31. 1804.*

# THE AGRICULTURAL MAGAZINE.

No. LVI.]

MARCH, 1804.

Vol. X.]

## MODEL OF A BARN, WITH A PLATE ANNEXED.

*To the Editor of the Agricultural Magazine.*

SIR,

WE live at a time when persons affect to consider that the principles of philosophy in general, and of mathematics in particular, are successfully applied to the ordinary concerns of life. Notwithstanding this position is so fondly assumed by many of your intelligent correspondents, a little attention will discover that these principles are, in many cases, generally misunderstood, and in others wholly abandoned.

Your last number contains some account of the agriculture of Norfolk, which I have read both with pleasure, and instruction. I have therefore been disposed to express my gratitude by inclosing the annexed drawing of a barn, constructed by Mr. Henry Dobson, of Norwich, the description of which was by him communicated to one of the best public institutions in this country.

The following are the dimensions of a barn fifty feet long, by twenty and a half wide.

### *Dimensions of the Model.*

1,475 Square feet the area.  
30,900 Cubic feet for corn  
only.  
445 Cubic feet of timber.

### *Dimensions of the Common Barn.*

1,475 Square feet the area.  
24,428 Cubic feet for corn  
only.  
702 Cubic feet of timber.

By which calculation it appears that a barn, built on the present model, gains on one in common use of the same area 6,472 cubic feet of space, and is built with 257 cubic feet of timber less: as there is nothing in its construction which would increase the expence of workmanship, the difference between the expence of building a barn on this plan and that of one in common use, of the same area, would be as 445 is to 702. It is needless to say any thing of its mathematical strength, and it must be obvious to any one who is at all acquainted with mechanics, that the present figure is of all others the best calculated to answer that purpose.

*Ag. Mag. Vol. 10.*

Y

I very much doubt if the preference assigned to Staddles, (No 55, p. 98,) be well founded. In this uncertain climate a barn is, perhaps, the only effectual security for wheat, the most valuable production of the field; and I flatter myself the attention of your readers will not be uselessly applied by adverting to the ingenious plan which is the subject of the present communication.

Lynn,  
March, 8, 1804.

I am, Sir, yours, &c.

F. C.

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### ON COMMONS IN NORFOLK, ROTATION OF CROPS; NEW HUSBANDRY, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

**T**HOUGH Chorographus has given your very intelligent correspondent, Agricola Norfolciensis, and me, a sort of challenge, I do not know that I should have made any remarks on his communication in your last Number, 55, had he not professed himself ashamed to speak of our Norfolk commons. I assure you Mr. Editor, we take no shame to ourselves on that score, but great merit, if merit be due to those who have made corn, &c. to grow where they never grew before. He says, this county contains 80,000 acres of waste; so says Mr. Kent in his Report to the Board of Agriculture, (a work which Chorographus seems to have read with attention) but it ought to be recollected, that Mr. Kent's report was made nearly, if not quite, ten years ago, since which time, I do not believe that the inclosing of commons has gone on any where with so much spirit as in this county. I presume your correspondent does not often see a certain weekly publication, called the Norfolk Chronicle, almost every number of which, for the last ten years, has contained advertisements relative to inclosures. A large portion of one of the commons he particularly notes, which came under the general denomination of Wyndham common, though not all within the bounds of that parish, was inclosed about four years ago, and the very extensive common belonging to that parish would have been inclosed also, but for a difficulty which arose in settling the extent of claims of certain individuals. Kent, in his report, mentions the parishes of Horsford, Hevingham and Marsham (contiguous to each other,) as containing 3000 acres of waste land: these are all since inclosed. Poringland Heath, which forms part of six or seven parishes, is inclosed, and the great heath called Muswold, adjoining Norwich, and extending from thence seven or eight miles in length, and from one and a half to two miles in width, consequently containing many

thousands of acres, and forming part of fifteen parishes, is all inclosed, except about 200 acres, belonging to one of the Norwich hamlets. In short, Mr. Editor, if your correspondent will give himself the trouble to ride about this county, he will not see a single common which would answer tillage uninclosed, or uninclosing, with the exception of our *greens*, (small neat commons, generally with cottages scattered around them,) which I am always vexed to see divided by new hedge rows, as in their present state, they afford great comfort and convenience to the inhabitants on their borders, and must delight the eye of every one who can relish rural scenery, especially on a fine Sunday evening, when the lads and lasses turn out, the former to enjoy the athletic sport of camping, (foot-ball,) &c. the latter to exhibit their neat Sunday gowns, and blooming rural beauties, and to admire the manly exertion and dexterity of their sweethearts.

So far, Mr. Editor, from our commons being permitted to lay waste, I think we are a pattern to all other parts of the kingdom, for our spirit of inclosing; and many of them cannot do better than send for some of our active commissioners, (who have almost worked themselves out at home) our Burtons, Dugmores, &c. as they have really had great experience, and are very dexterous in *carving* a common, and helping each claimant to such a slice as generally satisfies his appetite. With respect to ploughing, where the soil is naturally deep and rich, perhaps you cannot well stir it to too great a depth; but this is not the case with Norfolk, the soil of which has (if I may use the expression,) been created by the industry and ingenuity of the farmer, and whenever we go beyond the usual pitch, we are sure to turn up a barren unproductive sub-soil. It has been my lot to take land into my occupation pretty well stocked with twitch, (*tritium repens*) and this has perhaps made me the more partial to shallow ploughing, as the only means by which it is possible to eradicate it. Land so stocked, becomes by deep ploughing, apparently clear for a time; but the twitch remains beyond the reach of the scuffer and harrows, and with the succeeding crop increases ten fold. Where the land is clean, I would take up to the *full pitch* with the *first earth*, for the turnip crop, but in this case I do not think I should go beyond the usual depth of ploughing in this county, and we can scarcely quarrel with our mode of tillage, when it allows us, both by the accounts of Kent and Chorographus, to export corn to the amount of 900,000l. per annum.

In this place it may be fair to observe, that Kent estimates the amount of our exports, including corn, cattle, sheep, poultry, &c. at upwards of 1,274,521l. per annum.

I shall now take leave to make a few remarks on the course of cropping. To the south of Norwich, containing the hundreds of Humbleyard, Henstead, Loddon, &c. the land is strong, and the course generally wheat, turnips, barley, and clover. To the east, containing the hundreds of Blofield, Walsham, and Flegg, the course is almost invariably turnips, barley with seeds, clover, &c. wheat, barley, or oats without seeds. This is a course which every theoretical, and also every practical farmer, will condemn (except those who reside in the district); and though the soil is not naturally such as would be considered unusually rich, being a shallow loam on gravel, which in some places approaches very near the surface; yet the farms are in a high state, rich and clean, bearing abundant crops, both of wheat, barley, clover, and turnips; and the farmers wealthy. They apply small quantities of marle here, but very frequently, which, perhaps, may in a great measure, do away the ill effects of such *close* cropping. To give an idea of the excellence of a farm, it is sufficient with us to mention the word, Blofield: and a certain nobleman, who has considerable property in this district, and who is now, (according to his usual custom) advertising some of his farms to be let, endeavours to attract attention, by placing conspicuously, at the head of his advertisements, "Blofield Hundred." In the district to the North of Norwich, containing the Hundreds of Erpingham, Tunstead, &c. the almost invariable course is turnips, barley with seeds, layer, layer-wheat, barley or oats without seeds. They here let their land lie the second year, though perhaps there may be but a very scanty herbage indeed, and their invariable adherence to this system, arises, I conceive, from the district containing but very few meadows, and no old upland pasture, consequently they want their second year's layer for the use of their horses, cows, &c. in the summer. The above course is somewhat deviated from, by some excellent farmers, who suffer the land to lie the full two years, but instead of breaking it up for wheat, it remains till the following spring, when it is taken up for peas; then wheat, which is succeeded by turnips, so that the course is kept; and this is better than the other, as two white corn crops do not come in succession. The peas, especially if a stout crop, doing service rather than injury to the land; and the pea-stubble is considered as a better preparation for the wheat, than the tough knotty rye-grass layer. As to the western, south-western, and north-western part of the county, the land greatly varies, and the course of cropping and management vary accordingly.

Dibbling, for which this county used to be so famous, is going out very fast, it is generally done shamefully, much seed scattered on the surface, some holes filled, and others left

empty. Drilling gains ground, and is now practised by many of those men who, six years ago, would have been more alarmed by seeing a Drill at work on their lands, than they would be at this time, were they to meet the foraging party of a French army. Men, who, some years ago, would tell you, "Aye, they are mighty pretty playthings for gentlemen to waste their time and money upon, but fit only for a farmer to hurl into the deck hole."

I cannot conclude, without thanking your valuable correspondent, Agricola Northumbriensis, for his observations in your last Number; his hints will not be unattended to by me, and I shall always read with satisfaction, the communications of so intelligent a practioner. I will not, however, yet, give up the claim of us, Norfolk farmers, to superior management of the turnip-crop, and have a communication to make of a method which is beginning to be practised, to preserve our turnips from the frost, but this I must defer to some future opportunity.

Norfolk,  
March 8, 1804.

I am, Sir, your constant reader,  
P. J.

### ON SHEPHERDS' DOGS.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** THINK the following hints on Shepherds' Dogs will be acceptable to many of your readers. I have been a very close observer of sheep for more than ten years, and for some time have thought there wanted a reform among the shepherds' dogs. It seems to me ridiculous that sheep (the most timid of all domestic animals) should have to encounter with dogs little inferior to wolves in ferocity, and nearly as mischievous, particularly in a ewe flock. Perhaps, in the course of a day several ewes, heavy with lamb, will have to encounter with one of these dogs, and be nearly torn to pieces. After a farmer has seen this, it seems strange that he should ask his shepherd "What is the reason we have so many lambs come dead, and before their time?"

I know several farmers that look on the shepherds' dogs with a jealous eye, and still let them go on in the accustomed way. I believe it will be a little difficult to bring the shepherds to my way of thinking, as they are so much attached to their dogs, that their master must not tell them of their faults, much more that they shall have no dog at all, which I think they never ought to have among the ewes, for at least two months before they commence lambing, nor for a great while afterwards. If the shepherds would exert themselves a little more, and, at some particular time, might have the help



of a very small boy, (which in most places are to be had, and would be better for them than being idle, and better for their friends if their pay was ever so small;) by so doing, if I mistake not, all the dogs might be dispensed with, and the sheep live a quiet life, and would enjoy their food much better than they do at present. If after all, the shepherds must have dogs, I am fully persuaded one dog on each farm is quite sufficient; and that should always be the master's property, and as much care taken in breeding them as is used in breeding any other kind of dogs, and by choosing the most docile species that can be found, they will have dogs far superior from this present bloodthirsty race. I hope many of your correspondents will acquiesce with me, and I think sometime I shall see an end to this cruel usage among sheep. If this is thought worthy of a place in your Magazine, by inserting it you will much oblige

Your humble servant,

*Falmer, near Lewes,*

E. DOWLEN.

March 13, 1804.

P. S. I believe my neighbour R. S. has been wrongly informed respecting Paterish sheep. In your last number, page 103, he says, "This disorder is occasioned by a bladder of water that surrounds the brain," which in the many cases I have seen, the brain has always surrounded the bladder.

## FURTHER ACCOUNT OF MR. WHITTLE'S PRIZE HOG.

*For the Agricultural Magazine.*

**A**CCOUNT of food consumed, and weight gained, by Mr. Whittle's Prize Hog, exhibited at Smithfield in December last, (The weights here stated being taken when the animal was alive, are, in course, not Bacon Fashion, as given in No. 54. p. 5, of this Magazine.)

Date.	Age.	Weight.	Weight gained.	Food eaten.	Food which give keels. live flesh to 3 months.
1803, Feb. 28, 6 Months,		161 lbs.	lbs.	lbs.	lbs.
May 28, 9		348	187	15½	8½
Aug. 28, 12		496	148	14	9½
[Nov. 28, 15		591	95	13	13½
Dec. 13,		595	4	1½	37½

The result of feeding this hog is remarkable, and proves the great importance of ascertaining the progression of weight gained from food given: the longer the hog is feeding the less he pays; but the loss of keeping too long does not fully appear in the last article, as it is supposed he would have proceeded for ninety days as he did for fifteen; but he would, from the decline, in these fifteen days, probably have gained less and less.

## WASTE LANDS IN YORKSHIRE.

*To the Editor of the Agricultural Magazine.*

SIR,

IT is at last discovered, that of all the interesting subjects with which Agriculture is connected, there is none which, in a national point of view, deserve so much attention as the improvement of the waste lands of the kingdom. The annexed account will shew, that land of this description in Yorkshire almost equals the extent of the entire county of Norfolk; and it will likewise shew, that of this quantity, by far the greater portion is capable, either of being converted into valuable pasture or arable land; and that the whole, by planting, may be devoted to purposes of great public utility. You have, in various parts of your work, supplied to your readers a consistent history of the method of improvement best suited to the different species of soil discoverable on these wastes. You will not, I am sure, think it an unimportant matter, occasionally, to expose to the men of property in the several counties, the scene of wildness, desolation, and misery adjacent to their own domains; that motives of humanity and patriotism may induce them to avail themselves of the advantages of their wealth and influence to diffuse around the paternal mansion industry, fertility, and happiness.

York,

I am, Sir, yours, &amp;c.

March 13, 1804.

EBORACENSIS.

STATE OF WASTE LAND IN YORKSHIRE, *calculated by*  
*Mr. TUKE, junior.*

	Capable of cultivation, or of being converted into pasture.	Incappable of being improved, except by planting.	Total.
Waste lands in the North Riding.	Acres.	Acres.	Acres.
The Western moor lands. . . . .	150,000	76,940	226,940
Eastern ditto. . . . .	60,000	136,625	196,625
Detached moors or waste in the country	18,435		18,435
Total —	228,435	213,435	442,000
Waste lands in the West Riding.			
The high moors. . . . .	200,000	140,272	340,272
Detached moors, or waste in the country	65,000		65,000
Total —	265,000	140,272	405,272
Waste lands in the East Riding.			
Detached moors or waste in the country	2,000		2,000
In the North Riding		442,000	
— West Riding		405,272	
— East Riding		2,000	
Total waste lands in Yorkshire		849,272	

**OFFICIAL ACCOUNT FROM THE RECORD IN CHANCERY OF A  
PATENT PASSED FOR ERADICATING SMUT FROM WHEAT,  
AND FOR CLEANSING IT WHEN INFECTED WITH THAT  
DISEASE.**

*To the Editor of the Agricultural Magazine.*

SIR,

**S**EVERAL of your papers have adverted to different modes of cure for the Smut in Wheat. On that account, I have concluded that the following information from the records in chancery, on a patent passed for the immediate purpose of preventing this noxious disease, would be acceptable to you. I have copied it, verbatim, from the particulars given by the inventor himself to the office of that court.

Specification of the patent granted to James Roberts, of Abbotson Farm, in the county of Southampton, yeoman, and George Cathery of New Alresford, in the same county, gentleman; for completely and effectually eradicating smut from wheat; and that wheat, when cleansed by this invention, will produce flour of as good quality and value as flour made from wheat of the best growth.  
Dated July 6, 1803.

To all to whom these presents shall come, &c. Now know ye that, in compliance with the said proviso, we the said James Roberts and George Cathery, do hereby describe and ascertain the nature of our said invention, and in what manner the same is to be performed, as follows, that is to say: The said invention for eradicating smut from wheat, consists of mixing the same with lime made from stone, or white or grey chalk, and is used in the following manner, namely, the lime, when slack, to be sifted through a fine sieve, and then mixed well with the wheat, in proportion to the degree of smut, from one to two bushels to a load of five quarters; it then must be passed through a machine, in general once will be sufficient to make the wheat fit for the miller, but, if intended for sale, it will frequently be necessary to pass the wheat through the machine twice, and in some cases three times. The machine is made of wire with brushes within, upon the same principle as the machine in common use for dressing flour, except that the wire is stronger and coarser.

Perhaps, Mr. Editor, it would be no unentertaining, and uninstructional, part of your Miscellany, if you would not only occasionally, but constantly consult the records of chancery, that no patent to facilitate the purposes of agriculture may pass unexplained in the work. I know that into your periodical catalogue you introduce the titles, but I wish you to add, regularly, a correct and minute explanation of the discovery.

Chancery Lane,  
Feb. 10, 1804.

I am, Sir, yours, &c.

LL. D.

## VETETINARY ART. LETTER V.

## ON MUSCULAR WOUNDS AND ULCERS.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N the conclusion of my last letter, I confined myself to the subject of muscular wounds, and I introduced three prescriptions; one restraining, another relaxing, and a third destructive of a luxuriancy, vulgarly called proud flesh. With the following observations I shall dismiss this division of my subject.

In common wounds, where the separation of the muscle is occasioned, nothing more is necessary in general than uniting the lips of the wound, in a horse of a healthy and sound constitution; which, in many situations, is easily effected either by bandages, or by the needle, as under such circumstances nature's balsam is preferable to Friar's balsam and the long catalogue of unguents to which the cure is commonly attributed; when in fact nature is employing her utmost means to reject them, that she may be left to her own operations. If, indeed, the blood be deprived of its balsamic qualities, internal medicines must be employed before external applications can be reasonably expected to be effectual; and it is from the total ignorance of farriers on the convalescent or infirm state of the animal in this respect, that both the owner and the operator are so often disappointed. When the wound is brought together in the manner I have described, if any ointment be necessary, I recommend that with which I closed my last communication, or the following:

R.—Venice turpentine and bees-wax of each a pound, oil of olives one pound and a half, yellow rosin 12 ounces; when melted together, two or three ounces of verdigrise, finely powdered, may be stirred in and kept so till cold to prevent its subsiding.

But there is a much more serious evil than any that usually arises from ignorance in the misuse of ointments. Sometimes not only the muscle, but an artery is divided, and the bleeding may be attended with the most fatal consequences. In such cases, the person employed should be accurately acquainted with the animal economy: he should know the precise situation of the injured artery, and then he would frequently be able to pass a crooked needle underneath it, and by tying it with a thread, waxed, he will stop the hæmorrhage. But it is very rarely the case that the common practitioner can either depurate the vessel, or secure it in the less scientific way to which we have now referred; it is, therefore, often safer to apply lint or tow dipped in oil of vitriol, or hot oil of turpentine, to

*Ag. Mag. Vol. 10.*

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the mouth of the bleeding vessels, and care must be taken, that it be kept there by proper bandages till a crust or scab, technically called an eschar, be formed.

In my last paper, and in the few remarks I have now made, I have spoken of wounds of the more dangerous kind; yet there are some which, although less serious, are so frequent from a variety of causes, that I should not think myself justified if they were to escape my particular notice. Broken knees, over reaches, and lacerations between hair and hoof, are of this kind. In such cases, to apply the means of cure with any prospect of success, the wound must be first thoroughly cleansed from all particles of gravel or sand, and from filth of every kind, which has been introduced into it. If this be not carefully done, a violent inflammation is often the consequence of the neglect; the tender parts are torn, and a considerable discharge takes place. After the sponge has been employed in cleansing the wound, equal quantities of camphorated spirits and vinegar should be used to embrocate the parts, and a pledget of tow dipped in the same should be bound on two or three times, which will commonly be a successful remedy by the formation of an eschar, cicatrix, or a little seam, or elevation of the calous flesh. If, indeed, the wound be so considerable as to induce a violent inflammation, recourse must be unavoidably had to unctuous applications; a suppuration must ensue, and the more tedious means of cure must be resorted to, which I have before described.

Unhappily, a great many disorders are the consequence of improper treatment. Often have I seen a poor animal consigned over to misery, when the proprietor has considered he had done his best for his favourite by dismissing him to the hospital of the loquacious farrier—who, applying his fingers to the morbid part, detains his impatient auditor with a laboured harangue, and the distinction of pus and mucus ulcers are frequently produced by such ignorance in the management of wounds. When a wound terminates in the ulcerous state, it discharges a thin watery humour which is often so acrid as to inflame and corrode the skin. The ulcerated process is that action of the absorbent vessels, whereby, in consequence of an unnatural stimulus, they imbibe the soft parts and distribute them into the general circulation of the fluids.

Ulcers arise from two causes: from an ill state of the humours, or what is called a bad habit of body, and from mismanaged wounds. With the former I have nothing to do in this place, but it will properly come under my review when I consider the disordered state of the fluids. The latter is immediately connected with my present subject.

The first step is to bring the ulcer to discharge a thick matter instead of that gleet, thin, pale fluid it commonly emits. If the green ointment be ineffectual for this purpose, the prudent practitioner will have recourse to warmer dressings, such as balsam, or oil of turpentine, melted down with the digestive unguents, and over it a strong-beer poultice should be applied. Where the circulation is slow, and the part becomes frigid, to give activity to the blood, the wound should be fomented at the time of dressing, which will thicken the matter and attract to the part the native heat. It is not unusual for the lips of the ulcer to grow hard: this callosity must be completely sloughed off; and the method to produce this effect is by fomenting with a decoction of camomile flowers and mallows in as hot a state as it can be borne without much pain: afterwards the lancet must be used to scarify the surface, both longitudinally and transversely, so as entirely to penetrate the indurated portion. This being affected, the digestive ointment should be used twice every day; and the following has been approved of for this purpose.

R.—Yellow basilicon two ounces, and black basilicon one ounce; melt them together over the fire: when taken off, stir in one ounce of turpentine, and when cool add half an ounce of red precipitate, finely powdered; the whole to be minutely incorporated upon a slab.

It is expected this will remove the exterior induration, and that the discharge will come to its proper consistence. In such cases, a small portion of lint may be thinly covered with basilicon, and be placed under a piece of tow spread with the following digestive:

R.—Yellow wax and rosin, each four ounces, burgundy pitch two ounces; melt these in a pint of olive oil over a slow fire, and when taken off, stir in two ounces of turpentine. For large wounds, where a plentiful discharge is required, stir into this quantity three ounces of the spirit of turpentine, that it may incorporate in getting cool.

The danger that is now to be apprehended is what I noticed at the end of my last communication, to be a pernicious consequence common to all digestives, viz. that the wound should incarnate too fast, and become filled with fungous flesh. I then mentioned a prescription to counteract this effect; perhaps, under the circumstances here supposed, it will be sufficient slightly to touch these protuberances with quick lime, repeating it as often as shall appear necessary. When the scab is formed, the cure may be completed by indurating the surface with tincture of myrrh.

I must now advert to some injuries which are so extremely common, that it would be inexcusable not to give them a dis-

inct consideration. What I have already said will be preparatory to the suggestions I have now to submit to your readers.

#### POLL EVIL.

The name of this disease shews its situation. It is the misfortune of this art to have all its names assigned, not from the general nature, or from the correct classification of the disorder, but from the seat of it in the animal form; and hence no system has been adopted for the uniform treatment of the same complaint; and a cloud of mystery has overcast the most simple diseases which require only to be known to be instantly relieved. The poll evil is an abscess, and, like all other disorders of this class, is attended with swelling and inflammation: it contains purulent matter pent up, which corrupts and consumes the fibres and every thing else with which it is in contact. The first question, then, with an intelligent farrier, is not how he shall treat the poll evil, but what is the general remedy for the cure of the abscess? On the first appearance, he knows it may be sometimes removed by bleeding and purges; and if the irritation in the part increase, he will apply the common poultices with bread, milk, and elder flowers. The humours will often by these means lose their acridity, the tumour will gradually disappear, and convalescence will return.

But the principal skill consists in ascertaining the precise time when these remedies will be effectual; for from that moment the contrary means must be employed. While the farrier is wasting his time in uncertainty, the disorder is active; it is glutting its appetite near the seat and principle of life, and will soon sacrifice the victim to its voracity. Under these circumstances I will point out a method which had been successfully employed in the cure of the poll evil; premising, that the exact situation of this disease is in the sinews or cavities between the pole-bone and the uppermost vertebra of the neck.

What is called *roswelling* in farriery, is the application of the *seton* (*setaceum*) in surgery. It will not be expected that I should here give an account of the ordinary practice of farriers in this painful and dangerous operation, but I will point out the method of an ingenious Scottish practitioner on this subject, which may be advantageously employed in abscesses whether they affect the poll, the withers, or whatever be their situation.

In the first place a leaden probe should be used to trace the cavities of the abscess. It should be of this material, because the lead yields easily without forcing its way through the cellular membrane, or between the interstices of the muscles. Having so done, the needle, provided with a cord, should follow the direction of the sinews, and form an orifice

so much below the seat of the disease as to admit the free discharge of the purulent matter. The wound will be kept open, with the assistance of the cord, until these humours are exhausted; the health of the animal will then be restored, and the wound may be treated in the way I have before recommended for common wounds, but aperient medicines must not be discontinued for some time.

Westminster,  
March 8, 1804.

I am yours, &c.

VETERINARIUS.

## ON VETERINARY AND AGRICULTURAL SUBJECTS, IN ANSWER TO LUCAS MEDICUS.

*To the Editor of the Agricultural Magazine.*

SIR,

I BEG to have a few words with L. M. in reply to his two letters of Nos. LIII. and LIV. the last of which, particularly, seems too much filled with mere useless cant and tierce.

First, on the chemical analysis of soils, is not L. M. aware, that the analytical results of the old and new chemical schools are so nearly similar, in substance, at least, if not in name, that it would be pure burlesque to note the difference? Further, is he not apprized, that a celebrated French chemist (*Annales de Chimie*), has, after much laborious investigation, declared, and assigned a very satisfactory reason for his opinion, that it is out of the power of chemistry, in its present state, to confer any new or practical benefits on agriculture? As to pretensions, we can quote them wholesale, folio and quarto; it would be, however, infinitely more satisfactory to the lovers of truth and utility, to be told the facts, the dates, the persons benefited, the who, and where are to be found, those immense benefits conferred by modern chemistry, on the science and practice of agriculture. The best part of a life, spent in agricultural research hath not discovered those benefits to me.

I can easily allow the fact, for it is notorious, that the French, Germans, and Italians, are the best chemists and mineralogists; and the English, the best practical farmers in the world. I wish he or they, among the latter, who have regulated and improved their farming practice by their chemical knowledge, would come forward in the *Agricultural Magazine*, not with cabalistic phrases and hard words, moon-shine speculations solely, but with actual and useful facts, satisfactorily authenticated.

L. M. says, the use of gravel is to keep the soil open and loose; an observation worth all the calculations, and the whole collection of hard names in his letter: but for this truth we do not thank either the old or the new chemistry, L. M.'s grandmother, had she been a farmer, might have told it him with her other useful lessons. The carbonic matter, it seems, was



unknown to Bergmann; but there was nothing on earth to prevent his grandfather from knowing it, excepting its new name. But what if otherwise? Has Hassenfratz *proved* it the food of plants? Not to me.—The world never has, probably never will, profit by experience. Who, in the name of common sense, would think of premature exultation, after the fate of the pneumatic medicine? To adduce only one out of one thousand examples.

Letter the second. L. M. was misled in a trifling point, by my letter being written at Doncaster; the situation alluded to, is nearly ninety miles distant from that town. A few words will prove which of us has fallen into an *ordinary mistake*. To talk in the sense in which L. M. does, of our *respectable yeomanry*, is upon a level with a poet's writing on modern pastoral subjects, and using the common place terms of shepherds and shepherdesses. The improvements in British agriculture, within the last fifty years, have been immense; indeed, but for them, a vast emigration must have taken place. These are not ideal, mere empty, paper pretensions, which expire and vanish with their paper parents, but facts, capable of numerical proof, and really proven to all the world. To what class of men do we owe these? To our yeomanry? *Gardez vous, Monsieur* L. M. in writing on any subject there is a certain thing of prime, or rather *premiere* consequence.

That the art of farriery and of surgery are almost wholly derived from the principles and practice established in France, —I am compelled, by my own knowledge, to aver, is a groundless assertion. As surgeons, whether in theory or practice, the French, I believe, by universal consent, stand on superior ground; but in physic, a similar eminence is perhaps possessed by the writers and practitioners of this country. As to farriery, the Italian is the elder, perhaps the original school, however considerably it might have borrowed from the Arabian. But, until of late, our best English veterinary school, established on the principles of Gibson, the anatomical part derived from Snape, had scarcely any thing in common with that of France, and in rational and efficacious medical practice, was probably far before it. With respect to the *minutia* of veterinary operative surgery, the superiority of France must be again allowed, and yet our best English practice in that branch has never been found deficient in essentials. When I speak of our best practice, I freely allow it has ever been extremely confined, and so has even that of France, however long there has existed a regular veterinary college. Let no one suppose that I speak of the practice of our *farriers* of any possible class, nor ought L. M. to speak without due caution, when he speaks of the address of that class, even in France, where I have found the common farriers as great

bunglers, particularly in clumsy shoeing, and as pure ideos as the most exalted of their peers in this country.

L. M. demands, 'if farriery were not to be improved from the lectures, opinions and practice of the French college, from whence should we derive information: no lectures are given here, no opinions are here formed, &c.' I answer, from the principles and practice of two or three of our best writers, the disciples of Boerhaave, whom they did not disgrace, and whose merits, the lectures of modern professors have not been able to obscure. Any veterinary professor or lecturer, possessing a moderate previous share of knowledge, would easily, and without any great exertions of genius, have been able, on such base, to have founded an original English veterinary course; why this was not done, is too plain to need exposition: a gentleman by dint of friends, attains the professional chair, men are naturally fond of original pretensions, and the adoption of the French plan, beside its lying at hand, was obviously most conducive to the promotion of such view.

No—I am not ambitious of the title of a learned professor, any more than I am assailable by the shafts of ridicule; but I am a frequent student in old books, which sometimes occasion me to be, even without such particular aim, the detector of new plagiarisms and forgeries. Apropos, lately turning over Bauderon, Lemery, Fuller, and old Shebeare, for that which I could not find, I unexpectedly chopped upon a nostrum, which, a certain northern Doctor has of late claimed as his own, and *as usual*, plumed himself, no little, upon his important *new discovery*! Scarcely did a certain Professor exult more, on the recommendation of that wonderfully efficacious and rational *new* prescription of a dose of small shot for a broken-winded horse; or not more than the old woman, who thirty years ago, recommended the same identical remedy to me, for a pig which had the heavings.

As to the new nomenclature, without having any particular antipathy, or violent objection to it, I must own its real use has ever appeared to me extremely problematical; whilst the suspicions it has occasioned are by no means groundless. Besides, it is far from improbable, that e'er the general adoption of the present system, another, still more new, and more original, may supervene. I must own, I see no great use in an analytical nomenclature, granting it could be made universal. Some of the names in the New Edinburgh Pharmacopœia are absolutely ludicrous from their verbosity, e. g. those substituted for the simple term, *tutty*; in the name of utility and dispatch, who but the rankest pedant, unless a sharer in the joint stock company of new discoveries, would take the pains of pronouncing or transcribing so many long words, instead of two short and eque-utile syllables?

It is probable, that I have the honor to agree farther with L. M. on the subject of veterinary writings, than he may suppose. I am perfectly without prejudice against the work of Delabere Blaine. With an *if*, Mr. Blaine might have written a good and original work; and even with all its sins and imperfections on its head, Blaine's outlines, six times bigger, surely possesses much more than six times the utility and merit of the same number of veterinary treatises which have of late years issued from our fountain of all knowledge at St. Pancras. The last *New System*, for which, I think, I paid one guinea, is a most impudent attempt to impose on the patience and credulity of the public.

Feb. 18.

VETERINARIUS ALTER.

### DESCRIPTIONS OF DIFFERENT KINDS OF SOILS CAPABLE OF SUSTAINING VEGETABLE PRO- DUCE.

*To the Editor of the Agricultural Magazine.*

SIR,

I HAVE noticed in a great number of your papers, observations on the different kinds of manure, and on the various species of plants. I confess I do not think it less material to determine, in the way of definition or description, what are the contents or ingredients of the several sorts of soils. Mr. Young, somewhere in his *Annals*, complains of the impossibility of understanding the terms used by farmers in the several counties when they speak of the qualities of the earths, for as all our ideas are comparative, what is called clay in one district, is sand in another; and what is called heavy in one situation, is light in another. It, perhaps, may therefore be useful to give a concise account of the true distinctions of soils, by which some data may be afforded for the observations in your work, which, without this assistance, would be so differently construed by your Readers in various parts of the kingdom.

They have been distinguished in the following manner, into clay, chalk, sand and gravel; clayey loam, chalky loam, and sandy loam, gravelly loam, ferruginous loam, boggy soil, and healthy soil or mountain, as it is often called.

*Clay* is of various colours, for we meet with white, grey, brownish red, brownish black, yellow, or bluish clays; it feels smooth, and somewhat unctuous; if moist, it sticks to the fingers, and if sufficiently so, it becomes tough and ductile. If dry, it adheres more or less to the tongue; if thrown into water, it gradually diffuses itself through it, and slowly separates from it. It does not effervesce with acids, unless a strong heat be applied, or that it contains a few cal-

careous particles or magnesia. If heated it hardens and burns to a brick.

It consists of argil and fine sand, usually of the silicious kind, in various proportions, and more or less ferruginous. The argil forms generally from 20 to 75 per cwt. of the whole mass; the sand and calx of iron the remainder. These are separable by boiling in vitriolic acid.

*Chalk*, if not very impure, is of a white colour, moderate consistence, and dusty surface, stains the fingers, adheres slightly to the tongue, does not harden when heated; but, on the contrary, in a strong heat, burns to lime, and loses about four-tenths of its weight. It effervesces with acids, and dissolves almost entirely in them. I shall also add, that this solution is not disturbed by caustic volatile alkali, as this circumstance distinguishes it from magnesia; it promotes putrefaction.

*Sand*. By this is meant small loose grains of great hardness, not cohering with water, nor softened by it. It is generally of the silicious kind, and therefore insoluble in acids.

*Gravel*, differs from sand chiefly in size; however, stones of a calcareous nature, when small and rounded, are often comprehended under that denomination.

*Loam*, denotes any soil moderately cohesive; that is, less so than clay, and more so than loose chalk. By the author of the "*Body of Agriculture*," it is said to be a clay mixed with sand. Doctor Hill defines it, an earth composed of similar particles, hard, stiff, dense, harsh, and rough to the touch, not easily ductile while moist, readily diffusible in water, and composed of sand and a tough viscid clay. The definition I have given, seems most suited to the different species I shall now enumerate.

*Clayey Loam*, denotes a compound soil, moderately cohesive, in which the argilaceous ingredient predominates. Its cohesion is greater than that of any other loam, but less than that of pure clay. The other ingredient is a coarse sand, with or without a small mixture of calcareous matter. It is this which farmers generally call *strong, stiff, cold*, and *heavy loam*, in proportion as the clay abounds in it.

*Chalky Loam*. This term indicates a loam formed of clay, coarse sand, and chalk; in which, however, the calcareous ingredient or chalk much predominates. It is less cohesive than clayey loams.

*Sandy Loam*, denotes a loam in which sand predominates; it is less cohesive than either of the above mentioned. Sand, partly coarse and partly fine, forms from eighty to ninety per cwt. of this compound.

*Gravelly Loam*, differs from the sandy only in containing a larger mixture of coarse sand or pebbles. This and the two

last are generally called by farmers, *light* or *hungry* soils; particularly when they have but little depth.

*Ferruginous Loam, or Till.* This is generally of a dark brown, or reddish colour, and much harder than any of the preceding; it consists of clay and calces of iron, more or less, intimately mixed. It may be distinguished, not only by its colour, but also by its superior weight; it sometimes effervesces with acids, and sometimes not; when it does, much of the iron part may be separated by pouring it, when well dried, into spirit of salt; from which the iron may afterwards be separated by alkalis or chalk.

Similar to this, are certain *vitriolic soils*, which, when steeped in water, impart to it the power of reddening syrrup of violets. These are generally of a blue colour, but redden when heated.

*Boggy Soil, or Bogs*, consist chiefly of ligneous roots of decayed vegetables, mixed with earth mostly argillaceous, and sand, and a coaly substance derived from decayed vegetables. Of bogs there are two sorts: the black contains a larger proportion of clay, and of roots more perfectly decayed with mineral oil. In the red the roots seem less perfectly decayed and to form the principal part.

*Heathy Soil*, is that which is naturally productive of heath.

Warwick Lane,  
March 1st, 1804.

I am, Sir, yours, &c.  
LUCAS MEDICUS.

## SPRING WHEAT, SHEEP ON TURNIP LAND, CLOVER SPOILT BY FROST, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

ON looking into your 47th number to-day, I was exceedingly surprised, to find that "a Buckinghamshire Farmer", in his observations on Mr. Middleton's rotation of crops, condemns the practice of cultivating spring wheat, as "a species of crop very ill suited to most parts of this island, and particularly unfit for the adoption of farmers in the northern counties." How far northward this gentleman extended his remarks, I know not. I am satisfied, however, that they cannot be applied to this county, to the adjoining counties of Scotland, nor to any part of that country which is situated between Northumberland and the Frith of Forth. But when I say this, I have in view those soils *only* which are of a proper quality, and in suitable condition.

If spring wheat be cultivated in *any part of the kingdom* on cold, infertile, or strong clay, incumbent on a wet substratum, I should suppose that it would, almost always, prove

a very unprofitable crop, more especially in seasons when the seed cannot be sown pretty early in February; and I am of opinion that it should not, on any description of land, be sown later than the middle of March, *at least in the northern parts of the country*. In this district, spring wheat is reckoned so superior in value to a crop of barley or oats, that almost every farmer endeavours to clear his best land of turnips early in the winter, and to sow as much of it with wheat in January, February, and March as he can find in a proper state; and in most seasons I am convinced, from my own practice, that the crops of that grain exceed those of barley or oats, *on similar soils*, by thirty to fifty shillings; and, in some seasons, by three to four pounds, an acre.—On a deep loam or a clay bottom, I, last harvest, reaped a crop of wheat, sown after turnips in February, which produced forty bushels of good grain per acre. I also reaped a very productive one which was sown on the 19th of March, after turnips, on a sandy loam incumbent on gravel.

Grass seeds thrive well among such crops, either in the drill or broadcast husbandry, and in the more warm and favourable climate of the southern counties, I should suppose that the cultivation of spring wheat would be attended with still greater advantages: It ripens in almost every season in proper time for ploughing the stubble and sowing winter tares; but whether the latter crop “on medium and strong loams” (see Mr. Middleton’s course of crops in your 46th number) could be advantageously consumed or removed so early in the season as to enable the farmer *thoroughly* to pulverize, clean, and manure the land, and obtain a productive crop of turnips *in the northern parts of the kingdom*, I cannot yet determine. On lightish early soils, however, I have made the experiment, and have not the smallest doubt but *on a moderate quantity of land* all these operations may be effectually performed, and a good crop of turnips obtained within the same year. These turnips were sown in the first week of July, and this year I have a considerable number of acres under tares, which I intend to prepare for turnips next season. A small quantity of rye among the tares is useful in preventing their being laid too close to the ground, and the practice is favorable to an increase of that valuable article *manure*, either by folding in the field or carrying the tares (which are excellent food for any species of live stock) to the fold yards at home. I must, however, remark, that in general, it is necessary to give the land two or three ploughings *within a short space of time*, between the tares and the sowing of the turnips, during which, (from evaporation, &c.) it is often so exceedingly dry, that if a moist season does not succeed, the turnips will prove but a scanty crop.

Mr. Middleton's course of crops gives ample opportunities of sowing clover and ray grass seeds to advantage, after which the land may be continued one, two, or more years in grass ere it be again converted into tillage; and I highly approve of his recommending only *one crop* between the breaking up and sowing with turnips, being satisfied *from experience*, that that useful root is always raised to the greatest advantage on *fresh* soils, impregnated with vegetable matter, and that a great crop of turnips lays a solid foundation for future fertility by increasing the quantity of manure.

In this part of Northumberland there are large tracts of light sandy loams mixed with small hard stones, and incumbent on a bed of gravel. On these soils the almost universal course is,

- 1 Oats after grass,
- 2 Turnips,
- 3 Barley, spring wheat, and sometimes a small quantity of rye,
- 4 Clovers and rye grass,
- 5 Ditto ditto
- 6 Ditto ditto

For turnips we apply lime at the rate of three to six loads an acre, where the soil is not already sufficiently mixed with calcareous matter. This species of manure (which we generally apply in autumn) has been highly useful in these soils\*. the turnips are generally sown within the month of June *immediately* after the dung is laid on and ploughed in, *while the moisture is fresh*. Under this management great crops of turnips, corn, and grass, are obtained on these *naturally* poor lands. The turnips are mostly consumed by sheep folded upon them, and we are so well satisfied of the importance of this mode, that scarcely any are carried off except from *the best of the land*, and even on these parts we generally draw eight (and leave eight) drills alternately, and then fold the sheep on the *whole* of the ground, by which practice the bare intervals of eight drills are, as well as the other, enriched by their dung, urine, and treading.

In most of the improved parts of this county large flocks of sheep, of the new Leicester kind, are bred and fattened, and in some situations *very light dry lands* are continued *four*†, and in a few cases only *one or two*, years in grass. These afford the advantages of *comparison* by which we are convinced that the valuable crops we obtain, are, in a great mea-

\* It has been ascertained, by leaving a large stripe across the ridges, *without lime* on some very light soils in this quarter, in the preparation for a fallow crop after the *first breaking up*, that an application of that species of manure was absolutely necessary to render them fit for the growth of turnips.

† One year for cutting.

sure, owing to our lands being continued three years or upwards in grass.

After being in sheep pasture two or three years, they are fresh, rich, and in a fit state for the growth of *great crops* of turnips, which we consider as the source of *endless fertility*. We hear of no lamentations for our soils thus managed, "tiring of turnips or clover," though I am persuaded that the physical difficulties we have to contend with are greater than those in Norfolk; and though we do not resort to that "beneficial and enlightened practice, *sheep folding*." No, Sir, the source of our manure is to be found in the *greatness of our crops* in consequence of the excellence of a system that does not reduce us to the necessity of *torturing and starving* our sheep, which are bred from rams hired at vast prices, and which we spare no pains to prepare *as quickly as possible* for "feeding and clothing the hungry and naked," and replenishing our *purses*, to *which important purpose we find them much more conducive, on an average of years, than very extensive aration*.

"A Norfolk Farmer," (in your Magazine for May last) enquires the reason, "why clover so often fails and dies away in the winter and spring seasons, after showing so full a plant the preceding harvest." Permit me, therefore, to make a few remarks upon that subject. Broad clover has been extensively cultivated in a great part of this county for many years, and I have no reason to believe, that our lands do not produce as much of it now as they did formerly. On deep loams and strong soils, however, some farmers have *lately* shortened the interval in grass to *one year*, which I am apprehensive will not be favourable to the growth of that valuable plant. Most of our *very light soils* do not produce it in *great abundance*\*, though at harvest they generally exhibit a full cover of plants of a vigorous appearance: these soils, however, so far from producing *less*, now produce *more*, than they did a considerable number of years ago, which we impute, in some degree, to lime having rendered them more cohesive. That dry medium loams and strong lands are more favourable to the preservation of clover than very light soils, is evinced by this circumstance, that a greater *proportion* of plants attain maturity on the former than the latter; and it is pretty obvious, that *in every description of land*, most plants are destroyed in severe and frosty winters, it seems reasonable to conclude that inclement weather is the chief cause of our losing so many clover, as well as wheat, and other plants. Those who wish to see a particular description of the manner in which severe frosts operate in exposing the roots of clover plants to destruc-

\* Rye-grass, and some small clovers, thrive well on them.



tion, by raising many of them almost out of the ground, &c. will find it in Dr. Anderson's ingenious Essay in the Bath Society's papers. Another of your Norfolk correspondents, (*Agricola Norfolciensis*) says, "if any of your correspondents can give us a preventative for this defect (the failure of clover by the loss of plants in winter) he will do us a much more essential service than," &c. I agree with him, and am sorry that I cannot point out an effectual and advantageous remedy. In the new Farmer's Calendar, Mr. Lawrence says, "On the approach of winter, it is highly advantageous to cover the young crop (of grass) with a slight coat of manure, long yard dung, old thatch, or even sand or earth." I am satisfied, from my own experience in the field, that a covering of dung is highly advantageous in preventing carrots and parsnips from being injured by intense frosts; but how far it would be beneficial on young clover, I do not *experimentally* know. I am, however, inclined to believe, that farmers in general, and more especially the cultivators of turnips, would not consider it as the most advantageous way of using their manure.

I will not assert, that the diminution of the turnip and clover crops of Norfolk is attributable (solely) to the taking of two crops of corn between grass and turnips, or to the practice of continuing the land only one or two, instead of three or four years in grass; but this I will declare, that were I concerned in the management of a farm, or an estate, of light land in that county, I would pursue the system which has been practised with so much success on the light lands of Northumberland. I beg to be understood, however, as alluding *principally* to the interval during which the land remains in grass. There may be local circumstances with which I am unacquainted, that would, perhaps, give me a more favourable opinion of other parts of the rural economy of Norfolk, than I at present entertain. But of this I am *certain, that on all light dry turnip soils, sheep may be kept with safety, that on such lands they are the most profitable species of live stock, and that ground of this description in particular, will produce much greater crops of turnips, after being three or four, than after being only one or two years in grass.*

It would be rather difficult, Mr. Editor, to convince me that "sheep-folding" as practised in several parts of the southern counties, is judicious management. If, however, its superiority to the mode of treating that valuable animal in this district, *were demonstrated*, I would not hesitate a moment (judging from the specimen I have seen in Smithfield market) in preferring the Norfolk to the Northumberland sheep, for the former seem as well calculated for travelling and fold-

ing as the latter are for attaining early maturity, and leaving a great profit for human food

March 7,  
1804.

I am Sir, yours, &c.  
AGRICOLA NORTHUMBRIENSIS.

## ON THE AGRICULTURE OF THE COUNTY OF WESTMORELAND.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N a preceding letter I have remarked, that my detention at the delightful lakes of Westmoreland had given me a favourable opportunity of examining the agriculture of that county; how far I am correct in my observations upon it, I shall now have an opportunity of learning from some of your correspondents in that neighbourhood. In the last communication, my subject was the county of Norfolk\*, and I stated, that neglected commons comprized eighty thousand acres, which is something less than one-thirteenth part of that province. I then said, in a county like that, so celebrated for its cultivation, I was ashamed to speak of the commons. How shall I express my feelings on the state of Westmoreland, when I am obliged to declare, that three-fourths of the county is uncultivated? In this great, opulent, commercial country, where we are erecting pagodas, Egyptian pyramids, the golden palaces of the Arabian fable, and indulging our corrupt taste with all the glittering toys of Eastern pageantry, is this neglect of the proffered bounty of nature to be patiently endured? But, Mr. Editor, I beg your pardon for the momentary gratification of idle sensibility.

The extent of this county from North to South, is about 32 miles; from East to West, perhaps 40 miles; but from the

\* In my cursory view of Norfolk, I availed myself of the assistance of a communication of Mr. Kent to the Board of Agriculture, which was, by the order of that Board, printed but not sold or published. The copy to which I had access, is in the collection of the British Museum. I mention this, that it may be clearly understood I avail myself with great freedom of all manuscript or unpublished materials, to correct and enlarge the notes of my own tour through various parts of the kingdom. But no man should presume to resort to published sources of information, without making the just acknowledgment to those to whose labours he is indebted, or at least confessing that the observations do not rest on his own authority. Editors of periodical publications should recollect the remonstrance of our friend Peter.

“ I do not blame their borrowing a hint,  
For to be plain, there’s nothing in’t.  
The man who scorns to do it, is a log;  
An eye, an ear, a tail, a nose,  
Were modesty, one might suppose;  
But, zounds! thou must not smuggle the whole dog.”

irregularity of the outline, it contains only 800 square miles, or 512,000 acres, which is equal to about one seventy-third part of the whole Island. The population has been estimated at 8,089 individuals, and the rental at the low produce of 92,640l.

The soil is in general dry, which is fortunate, because from exterior causes it is among the wettest districts of England; the fall of rain, on an average, being from 45 to 50 inches, which is nearly double what your correspondent, B. A. has stated to be the fall of rain in the adjacent county of Lancaster, in your last number. Notwithstanding this abundance of atmospheric humidity, the superficial dryness may be accounted for by the substrata of the soil, which are of sand, gravel, or limestone rock.

The account of Norfolk shews a system of aquatic connection which resembles modern Batavia. This is not among the advantages of Westmoreland. Besides the Lakes, only three rivers (scarcely any where navigable) deserves attention. The Eden which rises in Mallerstang, enters Cumberland, and intersecting that county, discharges its waters into Solway Firth. The Ken commences in Kenmere, pursues its course through the valley of Kendal, and empties itself near Melthorp. The river Lon has its source in Ravenstonedale; proceeds through the low grounds, to which its own name is given; and enters Lancashire below Kirby Lonsdale.

It will surprise some of your readers, that on an average, not more than 20,000 acres in the whole county are annually under tillage; and I apprehend, with this neglect of the plough, they will not expect much information from the course of crops adopted in the county. The general rule is, when a field of grass is over-grown with moss (which may be in eight or nine years) to break it up with the plough: the fact, however is, that the use of composts, of which lime is a principal ingredient, has been found so powerfully to counteract the growth of moss, that the tillage is likely to be yet further diminished. The course, however, is, when they are overpowered by this noxious intruder, to have a fallow, succeeded by oats, barley, and oats. The land is then left to itself (instead of sowing with the oats the artificial grasses) and a crop of hay, deficient both in quantity and quality, is the miserable return of the first year. In the third year, they consider it in the highest perfection; and, as I have before intimated, in the eighth or ninth, unproductive.

We may reckon about 115,000 acres, either cut for hay or devoted to pastures for; fattening and for the dairy. Hay is a material article of produce in the vicinity of London, and is also of great consequence in this county, but for a very different reason. In summer, the farmers of Westmoreland derive their greatest profit from their cattle. During the whole

summer, they can maintain them at a very cheap rate, on what are called the joisted fields, and at no expence at all upon the commons; but their principal difficulty is in the Winter and Spring. In order to provide against these seasons, they cut for hay all the fields that are worth the labour, and having unfortunately a prejudice against the artificial grasses, this is all the means they have for the support of their stock. Very little hay is sold in the county, but the price may be stated in winter and spring at 4d. to 6d. a stone, or from 4s. to 6s. a cubic yard. A cubic yard in the lower part of a well-pressed mow is found to contain about 12 stone of hay.

As the cattle is a principal source of emolument, the general economy respecting it must not be omitted; and yet if there be any thing peculiar in the conduct of this department, it arises from the singular circumstances of the land, and not from any superiority of skill in the farmer. The young cattle are kept on the less valuable tracts in the summer, and have straw and a little hay allowed them in winter. At three years old, they are indulged with better pasturage, to prepare them for the Yorkshire and Lancashire graziers, to whom the barren ones are sold, at from 6l. to 9l. and those in calf from 8l. to 12l. It is supposed, that 10,000 head of Scotch cattle are annually disposed of at Brough-Hill Fair. Many of these are purchased by the farmers of the county where they are wintered. the young ones, in May, are sent to the commons; those of a proper age are fed upon the richest ground, to be fitted for the shambles in the succeeding October. Notwithstanding more milch cows are kept in these districts in proportion to their extent, than almost in any other where manufactories are not established, yet the farmers are not curious in the selection of their cows. The expence of a cow they estimate at about 6l. and the produce at about 9l. or 10l. annually. They make their butter up into firkins of 56lb. each, for the London market, the price of which is from 35s. to 45s. The London cow-keepers have three halfpence for every quart of new milk: those who follow this employment adjacent to Kendal obtain the same price, and there, in consequence, the dairy is most advantageous. In sheep, no portion of that spirit of improvement appears in this county, for which many other parts of the kingdom have been conspicuous. The breed is either the native, or a cross with the Scotch. Those who have not sufficient pasture on their own farms for wintering their young sheep, drive them to the valleys, where they continue from the beginning of November to the commencement of April, for which they pay about 2s. a head for such as return. Wethers are sold in October, at four years and an half old, from 10s. to 15s. Barren ewes, at Lammas, from 9s. to 11s. and old ewes, at about 7s. to be pastured in the in-

closed grounds, and fattened with their lambs the ensuing summer.

The salving in this county is performed in October. The commixture is a gallon of tar, and 16 lb. of butter, which is sufficient for 35 sheep. The expence is about 6d. each, and if oil and tallow be substituted for the former, it is reduced to 4d. each. Tobacco liquor is not used, because the unctuous preparation is supposed to improve the wool. The manufacturers of Kendal and Yorkshire, buy the wool in time of peace, at from 5d. to 7d. per lb.; but in a tract of land called Silverdale, near Milthorp, the wool is of superior quality, and obtains from 8d. to 10d. per lb.

I have seen, Sir, with much pleasure, the attention your correspondents pay to the amelioration of this essential article, and I wish it may infuse into some of your Northern readers the same spirit. There is an unaccountable partiality in favour of the coarse wooll'd species, although it is now very generally known, that the Cheviot breed (the fleece of which is so valuable) is equally hardy. The price of pasture will surprise your friends in some of the counties near the capital. A summer's grass for ten sheep or one ox, on Forest Hall and Moseley Common, is 4s.; and on a portion of Troutbeck Common is only 6d.

It is, perhaps, more difficult to give an account of the rents under the vast variety of soil and condition, than of any other matter. At Shap, Ambleside, and Troutbeck, the best hay meadows let for 30s. per acre. At Kendal, Burton and Milthorp there are some at 80s. and at Kirby-Lousdales as high as 100s. Yet in Ravenstonedale, where no tithes are paid, about 2,000 acres let from 4 to 11s.; and 500 acres, perhaps from 20 to 40s.

On the subject of the manures employed in these parts, little need be observed. Near Appleby, where turnips and fallow may be considered as a part of their course, a large quantity of lime is employed. The country abounds with limestone, but coals cannot be procured; and therefore this mineral has been hitherto almost useless. The reader may collect the difficulty of establishing a communication by canals from the mountainous character, and from the impervious nature of the soil of the county. The works of this kind projected at Kendal, I hope will not be impeded, which will facilitate the conveyance of coals to an extensive district, and by that means assist the application of the species of manure alluded to which is alone capable of converting the country into an exuberant garden.

As the matter now stands, the lime used must either be brought by land from Kendal, or conducted up Windermere, at a great expence. I should think in many parts of the county

they might avail themselves of the expedient resorted to in Sussex, where 600 faggots cut in winter, and weighing when dry 36 cwt. are found to be sufficient to burn 480 Winchester bushels of lime.

Labour in Westmoreland is at the following prices; which are higher than in some of the adjacent counties. A man by the year, 10 to 12 guineas; besides which, he is to have his board and washing. A labourer 1s 4d to 1s and 8d per day. Corn cutting, 7s to 10s the acre; (the sithe is not used with any kind of grain). Mowing hay 2s to 3s 6d per acre. Threshing is usually performed by the permanent servants of the farm, but if it be done by the piece, 7 bushels and a half of oats are threshed for 1s; the same quantity of barley for 1s 3d, and two bushels of rye for 6d or 8d. The dearth of labour in this county has occasioned a complaint by certain gentlemen of very nice feelings, because women are occasionally employed all round the year in the labours of the field. These knights errant have forgotten the landholders called statesmen in this county, who employ their wives, daughters, and servants in the culture of their little estates, and who are among the most independant yeomanry of the kingdom. The practice of employing women in that way arises from this peculiar distinction of persons, and at the same time that the sex is permitted to conduce to the support of the farm, they are not excluded from the bounties of the table, or from the rational pleasures of society around the family hearth.

It will appear singular, that there is but one windmill in the whole county, and that is not employed in grain, but is devoted to grinding bark for the tanners at Kendal. The numerous streams and cataracts, with a little assistance from the hydraulic art, supply abundance of mills at which wheat is reduced into flour for 4d a bushel.

The swine are neither large or good. Hams are sold at about six-pence halfpenny per lb. green, and eight-pence halfpenny when cured; after which operation they are found to have lost one-fifth of their weight. The horses are neither numerous or handsome, 20l. is considered a good price for a compact well formed animal at five years old.

The implements of husbandry are defective; the plough, however, is light, two or three horses are attached to it, and it performs the work tolerably well. An extraordinary prejudice prevails in favour of one-horse carts; they suppose that four carts of this description are capable of carrying a greater weight than a four-horse waggon. The Drill husbandry being almost wholly unknown, there is no room for observation on any of the best utensils known in agriculture. Some confusion arises from the different proportions of the

acre. The statute acre, which is only 4,840 square yards, is sometimes mistaken for the customary acre, which is 6,760 square yards, and for that of the Lancashire border, which is 7,840 square yards.

The barns are frequently twenty yards long, five wide, and five feet high on the side walls. This edifice usually includes the cow-house and stable, and costs about 70 or 80 guineas. The common fence is a stone wall which costs from 1s. to 1s. 6d. building to the length of seven yards.

The view here given of the agriculture of the county shews the vast room there is for improvement, and especially on the arable lands. The introduction of the drill system, with the artificial grasses and turnips, I most anxiously recommend.

On a great proportion of the land the following rotation of crops might be successfully substituted for the pernicious course which now prevails.

1 Oats manured and drilled.

2 Turnips drilled at the distance at which the horse-hoe may be employed between them.

3 Barley and grass seeds. Clover and ray grass may be sown together, sixteen lb. of the former, and one bushel of the latter to the acre.

4 The land may now continue in grass for two or three years, at the discretion of the farmer, and the course may be lengthened on suitable soils by drilled peas, beans, &c.

These observations are, necessarily, only partially applicable, because the variation in the soils must require a difference in the culture.

The number of sheep annually lost in this county is a sort of *prima facie* evidence that neglect exists somewhere. It has been said, that in 1792 not less than one-third of the flocks perished. It is known that in some parts of the county ten sheep may be kept for six-pence a year. Supposing then six acres be sufficient for these ten sheep, the rent is one penny a-year per acre; and the fee simple, at twenty-four years purchase, is only two shillings. Such a view of the estimation of their property, I believe, will be a more powerful stimulus to improvement with the gentlemen of the county, than any other to which I could resort. It is as unproductive to the owners as the wilds beneath the Blue Mountains of North America.

I might add much more on this subject, but I am sensible, Mr. Editor, I have extended the article beyond the limits you are disposed to prescribe to me, yet I must take the liberty of devoting a sentence to your facetious correspondent. Topographus quotes, (No. 55, p. 106) some lines from the tasteful

bagatelle of Mrs. Barbauld, of the Swallow and the Tortoise, and he avails himself of it in justification of his own sedentary habits, and in ridicule of my ceaseless activity. I may be permitted to address him in the language of the Little Wanderer; acknowledging, however, the total inapplicability of the concluding words.

"A pleasant nap indeed! (replies the Swallow)

When I can neither see nor fly

The bright example I may follow:

Till then, in truth, not I!

I measure time by its employment,

And only value life for life's enjoyment.

As good be buried all at once,

As doze out half one's days like you,  
you stupid dunce."

I am, Sir, your's &c.

March 4, 1804.

CHOROGRAPHUS.

ON AGRICULTURAL PHILOSOPHERS. ON THE PREPARATION  
AND UTILITY OF LIME AS A MANURE; IN ANSWER TO  
THE INQUIRIES OF "A NOVICE."

*To the Editor of the Agricultural Magazine.*

SIR,

IN No. 52, p. 325, you have a letter from "A Novice," in which there is the following passage. "I frankly confess, that I have occasionally joined with many farmers, who, like myself, are not learned men, in ridiculing the conversation of several husbandmen whom we distinguished by the name of *philosophers*, without, however, believing that they in reality deserved that distinction. We understood that their *high sounding words* did not correspond with their practice; and that this, in fact, was not more advantageous than that of their unlettered brethren."

By this paragraph I understand, that "A Novice" considers that the high sounding words of philosophy, and the hard working deeds of agriculture are to be expected in the same individual. There is a proverb in an old writer\*, by which "A Novice" may be fitly instructed: "The more brilliant the imagination, (he says) the less correct will be the judgment." "A Novice" must not undervalue the philosopher, because he devotes his hours to inventive speculation in his closet, instead of boldly defying the inclemencies of the season, and assisting his dependents in the rough occupations

\* The passage referred to is in the works of the platonist Maximus Tyrius, Τὸ τέλος φιλοσοφίας. Where he says, "Quo fecundiore sit ingenio, eo minus valeat iudicio."



of the field. Human nature is contracted in its powers, and yet more contracted in their application. Let "A Novice" be satisfied if he himself attain the extensive advantages from honest industry, and if he be assisted in the direction it receives by the recluse philosopher, who derives more satisfaction from the discovery of one useful truth, than from all the luxuries and enjoyments which a life of patient and useful application could obtain. By the wise appointment of Providence, the man who engages in active duty, and he who devotes himself to passive contemplation have their reward, and in the way that is most acceptable to each of them.

One question of "A Novice" in respect to Carbon, has been very correctly and ably answered by Hibernicus. I therefore shall not make a single observation on that subject; but I think your correspondent has given no reply to the inquiries on the nature, qualities, and fructifying principles of lime; and I look in vain for an illustration of this singular manure to the remarks of your Arundel correspondent, whose situation and studies have given him so favourable an opportunity of doing justice to the discussion.

Every one knows that lime is made by exposing chalk, or other native combinations of calcareous earth, and fixed air, to ignition in a furnace, properly adapted for that purpose, called a lime-kiln. The heat must be of considerable intensity, and is usually continued 12 or 15 hours. A less time will be sufficient if the heat be greater, and a longer is necessary if it be moderate. The effect of this process is to drive off the fixed air and water, which compose about half the weight of such stones. Calcareous earth thus treated, is said to be in a caustic state from its disposition to combine with and destroy the organization of substances, by forming a sope with their fat parts. As calcareous earth is infusible by the heat of a furnace, there would be no danger from too violent a heat, if the specimens of chalk or limestone were pure; but as this is seldom the case, an extreme degree of heat produces a commencement of vitrification in the compound stone, and enables it to preserve its solidity when attempted to be made into mortar. This is called over-burned lime.

Having explained the process, and the evil to be avoided in the preparation of lime, I shall next attend to its fertilizing principle.

When deposited in the earth it is rarely dissolved, because it is not soluble without the addition of 700 times its own weight of water. It, however, undergoes a change by the absorption of this fluid, for 100 parts of quick lime will imbibe about 28 of water. To regain its full portion of air from the atmosphere, or in other words, to restore it to its stony

state, it will require more than a year, unless it be purposely spread out and turned to receive the air into its pores. It has been a subject of controversy whether lime, in its most caustic state, should be employed in agriculture; and it has been supposed that its destructive principle was so strong, as not only to convert into a coal substance all the organic matter it meets with, but the seed itself which is deposited for future growth. Practical experience has, however, discovered, that no such destructive consequence is to be apprehended, even in its most caustic state, unless the seed and the lime should be deposited on the same day. The facility with which the lime imbibes water, soon deprives it of this extreme causticity; it becomes slacked, it crumbles, and magnifies its surface by these means to the utmost possible extent, in order to impart to the womb of nature all its fructifying principles.

I have said that the effect of lime is to combine with, and destroy the organization of substances by forming a sope with their fat parts. This shews the utility of a mixture of dung with lime; for, by the assistance of this caustic principle, the dung is reduced into a coal, and the carbonaceous ingredient which we are now to understand to be the substantial food of vegetable life, is thus abundantly supplied.

Considering the many papers that have appeared in your useful Miscellany on matters immediately, or immediately connected with the present inquiry, I do not deem it necessary to enter into any farther explanation. If "A Novice" will think his time not misapplied by connecting the present communication with those to which I allude, he will find the elucidation sufficient, I conceive, to satisfy all his reasonable doubts; but if any uncertainty should remain on his mind with respect to this subject, I will do my best endeavour to comply with any wish he shall express.

I am, Sir, your's, &c.

March 16, 1804.

D. C.

ON COMMERCIAL PROPERTY AS SUBJECT TO PERSONAL TITHES, IN ANSWER TO AGRICOLA MERIDIONALIS.

*To the Editor of the Agricultural Magazine.*

SIR,

SOME papers in your Magazine have treated on the subject of tithes, but your correspondents do not seem to attend to all the difficulties in which this question is involved. I, Sir, am an advocate for tithes under the present system; but I do not found my arguments on their antiquity, or on any peculiar privileges whereto the sacred order to which I belong is entitled. It might be easy for me to avail myself of

the prejudices of the more serious part of your Readers, but I wish to consider the subject merely as a civil right where with I and my brethren are invested by the laws of our country, and of which, therefore, we are not to be deprived without our own consent.

Many who presume to treat on this subject, and who are most forward to plunder the property of the Church, are wholly ignorant of the nature of that species of incorporeal hereditaments, denominated tithes. This, however, is not the fault or the misfortune of your intelligent correspondent Agricola Meridionalis. Page 329 and 330 of your last volume, he very accurately distinguishes what are called predial and mixed tithes, but he says, "with a third kind, distinguished as personal tithes, which includes occupations and trades, I have no present concern."

What! "no present concern," when he is discussing the propriety of their abolition? Does he mean, that he would cancel the two former, *and leave the clergy in the full right to enjoy the latter?* The whole tenor of his letter explains, that his intention is to take the sponge and wipe away the entire claim; and I shall shew, that the only reason he neglected to insist on the last, was because he was incompetent to assign for this part of the surrender any adequate remuneration. Tithes are defined by Sir William Blackstone, "to be the tenth part of the increase yearly arising and accruing from the profits of lands, the stock upon lands, and the personal industry of the inhabitants;" and the latter part of this definition refers to the personal tithes, being the tenth part of the clear gains and profits arising on *all manual occupations, trades, fisheries, and every other employment to which the labour and ingenuity of man is directed*\*.

Let us now, Mr. Editor, pause, to consider the motive of your correspondent for omitting this material part of the subject under discussion. A moment's attention will explain it. Personal tithes are claimed by the statute of 2 and 3 Edw. VI. c. 13. At that time the trade and commerce of this country was in a very low condition; the policy of Elizabeth had not invited the manufacturers of the Netherlands, and had not established that immense trading institution which commands the Eastern world. But now, on the solid foundation laid by that illustrious Princess, the trade of the nation has risen to a height with which the inhabitants of Tyre, of Carthage, and of Alexandria were unacquainted. The exports of this country amount to fifty millions sterling, and the internal commerce, from its extent and magnitude, seems to defy the calculations of the political arithmetician.

\* 1 Roll. Abr. 656.

The profits resulting from this prodigious trading intercourse are subject to personal tithes; or more correctly, a dormant right exists with the clergy to assess tithes on this great commercial income. The principal statutes by which these rights are supported, your legal readers will find to have been passed under the reigns of the three first Edwards, under Richard II. Henry VIII. under his immediate successor, and under William III. and the first and second George. The great object, then, with *Agricola Meridionalis*, and a vast herd of communicators, is, to get rid of these dormant rights, which the humanity of the church has not thought fit to exercise.

Sir, these are days when the mania of revolution is invading all the ancient establishments, and when its fury and rapacity is peculiarly directed to the subversion of the rights of the sacred order. It is not, then, a time, when the maxims of sound wisdom should incline us to barter away those privileges which we have obtained from the piety of mankind. Let the laity be satisfied with the forbearance of the clergy, in not asserting their rights, lest, if the seculars should press us indiscreetly on this subject, we should think it prudent to resist their hostility, by availing ourselves of the weapon which the laws of our country has, on the most obvious principles of state policy, confided to our hands.

Rudland, Flintshire,

March 4, 1804.

Yours, &c.

CLERICUS.

### TITHES, FALLOW, DRILLING, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

March 6, 1804.

**I**N Number XLIX. of your Magazine, "An Hertfordshire Farmer," says, "being at the late sheep shearing at Woburn, I had much conversation with some Scotch cultivators on the subject of fallows, and these gentlemen threw much blame on Young, Middleton, and Lawrence, as grossly misleading the public by the sound assertion *that fallowing land was totally unnecessary after it shall have been once thoroughly cleaned from root weeds, and that clay lands are equally adapted to their peculiar fallow crops, as the lighter species of soils.* You must understand, sir, that there exists almost as strong prejudice in favour of the summer fallowing system in Scotland, as in favour of their Bible, &c."

In a former letter to you, I adverted to this subject, and would ere now have offered some further observations upon it, had I not entertained hopes that your able correspondent Mr. Middleton, would have complied with the request of an "Hertfordshire Farmer," and stated the "examples within his  
*Ag. Mag. Vol. 10.* C c

knowledge, &c.” and if I had not expected that some of my Scottish brethren would have communicated their sentiments on the occasion. I have no right to inquire why Mr. Middleton did not do so, nor why he did not answer Agricola Norfolciensis’s observations on his letter on Tithes; I must, however, beg to express my sorrow and disappointment, that your late numbers have not contained letters from this distinguished advocate in the important cause of agriculture. I hope it is an unusual press of business alone which has prevented your readers from receiving the benefit of his pen, and that as soon as his avocations will permit, they will again have the advantage of his instructions.

I live near the borders of Scotland, and am pretty well acquainted with the agriculture, and many of the inhabitants, of that country; and if your Hertfordshire correspondent is as well acquainted with them, and has discovered that their attachment to the Bible *really* arises from *prejudice*, I must lament my want of discernment, for it always struck me *forcibly* that their laudable attachment to that book, and the important truths it contains, arose from thorough and minute examination and comparison, and not from *prejudice*. Equally satisfied am I, that the sentiments of the cultivators of Scotland on the subject of summer fallowing, rest on the same solid foundation. The practice of occasionally giving their lands a bare fallowing, was, I think, introduced into Scotland (from England) about the commencement of the last century, and has been justly considered by the ablest husbandmen of the North, as a very valuable improvement. Since that period, great improvements have taken place in England in raising wheat after beans and peas, *drilled and well horse hoed*: these, however, cannot, I apprehend, be introduced *with similar advantages*, either into Scotland or the contiguous counties of Northumberland\*, &c. for the powers and efforts of man must be unavailing in attempting to render the soil and climate of these parts of the kingdom as propitious to the system of *constant cropping*, and raising an abundant produce of wheat after the fallow crops, as those of the southern counties, which are situated in about two to five degrees of latitude nearer the sun, and in which the husbandman enjoys the advantages of a more regular change of the return of the same kind of weather in the same succession. Some have attributed these advantages to the greater breadth of the island in the southern parts of it, but, whatever the cause is, it is undeniable that in the northern parts of the country the seasons are not only more irregular and unsteady, but much later than in the southern counties; and that in general, when

\* I mean that they cannot be so extensively practised.

the farmers in the latter are enjoying the sunshine of an early and propitious season, those in the former are treading the frozen or miry soil; disadvantages under which they frequently labour till the middle or latter end of March; the crops, therefore, are generally braiding in the south e're the seed be committed to the ground in the north, which, with the great additional heat, brings to the southern agriculturists an early and productive harvest, when their brethren of the north are obliged to let their beans remain uncut till Martinmass, and in some seasons evidently later. Now, Sir, I presume that no experienced husbandman will contend that this late period of the season is, *in such a climate*, favorable for sowing wheat and skuffling, and otherwise cleaning land, which has been injured by wet and adverse weather in the preceding spring; and it should be recollected, that, *in most seasons*, such weather baffles all the attempts of the northern cultivator properly to prepare and sow *strong and wet* lands, so as to have a fair prospect of reaping a tolerably productive crop of beans, and of sowing them with wheat in the succeeding autumn. Upon such lands, however, some northern farmers have occasionally bid defiance to weather and climate; but what was the consequence? the account of the beans and the succeeding crop of wheat was not only *less* than that of the wheat obtained on similar soils, *after a bare fallowing*, but the land was in such a state (with root-weeds, &c.) as to be unfit for the growth of clover or any other crop. Now if a more valuable produce, and greater profit, within a given number of years, are the criteria of superiority in the cultivation of the soil, which of these systems would a judicious husbandman pursue? *It has always appeared to me, that the question for the consideration of the prudent farmer is not whether he should have a crop upon his strong wet grounds every year, but whether, by pursuing constant cropping he can raise a more valuable produce and greater profit than by taking four crops in five, or five crops in six years.* I will venture to maintain against any authority whatever, that no system can be good which does not enable the agriculturist completely to pulverise his soil, and effectually destroy the root and other weeds, and it is well known in the northern parts of the kingdom, that *in most seasons*, all the efforts of the ablest farmers are required to produce these effects on *strong wet lands* even in the course of a summer, or bare fallowing.

At page 274 of the New Farmer's Calendar, (a work upon the whole of great merit,) Mr. Lawrence says, "It has been taken for granted, with a confidence such a notion never merited, that the earth, like a system of animal organization, stands in need of rest, and that it may be totally exhausted by the exertion of perpetual vegetation; a notion which the earth herself, by

her constant and invariable habits has saved the trouble to refute" On this subject, *if proper manuring be practised*, my sentiments are in unison with his; and, therefore, it is not because I conceive that the earth requires *a rest* that I would, *on some kinds of land, and in most seasons* recommend summer fallowing, but because such lands require *a thorough cleaning from root-weeds*, which I am satisfied cannot be effected in *this northern climate* without a bare fallowing, and, perhaps, I entertain as favorable an opinion of horse-hoeing as most of the advocates of that system. I have said *in this northern climate*, but I must confess, sir, that I cannot but entertain doubts as to horse hoeing of drilled fallow crops being adequate to effect such *thorough cleaning* even in the more favorable climate of the southern counties, *I mean when pursued every year on very strong wet lands*; and in all situations, and on soils best adapted to *constant cropping*, I must contend that a copious application of manures is necessary to permanent fertility, and that the means of renovating the land by such applications should have great weight with the farmer in determining between constant cropping and fallowing, for I am at variance with all those who maintain that the latter does not enrich as well as clean the soil.

Mr. Lawrence, at page 277, Farmer's Calendar, says, "Regular periodical fallows, may, in truth, be stiled the nurseries and hot beds of couch, since on lands subject to the practice we even see the greatest quantity of it." In reading this, every practical farmer will, *on the first glance*, conceive that it was the *slovenly fallowist*, and not the *system* he was contemplating when he used these words. I perfectly agree with him, that if fallowing is conducted in a slovenly manner, *in the manner too generally pursued in some of the southern districts*, it will be more favourable to the growth of couch than horse-hoeing, *under the management of a skilful and able agriculturist*.—But surely this is no argument against a *proper management of fallows*, such as we are under the *necessity* of practising in the northern parts of the kingdom, where the three quarters two bushels of wheat, per acre, mentioned by your Hertfordshire friend, as the produce of clay loam, which he had under *constant* crops for twelve years, would not have been reckoned much, if any thing, more than a *middling crop*, and considering that we pay higher rents than are paid for similar lands in the south, we cannot raise the heavy sums demanded of us, from *middling crops*, nor from cultivating our grounds with oxen, or four or five lubberly horses, (with a driver,) to a plough. The latter spectacle I have beheld in Hertfordshire, where a north country farmer would not entertain the smallest doubt of raising a more abundant produce, with only two horses, driven

by the ploughman with cords. In another part of the same work, Mr. Lawrence says, "As to grasses and root-weeds, it is a very common deception to expect that exposure will destroy them, which is to be done effectually by no other means than collecting them by the hand and burning them on the spot." Here again, if he had added the words, *or carrying them away and mixing them with lime, &c. for the compost dung-hill\**, I would, in a great measure, have agreed with him. But how can the knot-grass and other root-weeds be collected and burnt, or carried away when the ground is under a fallow crop? It is certain, that in several seasons, notwithstanding that the soil may have been completely cleaned a few years before, and well horse-hoed afterwards, these weeds will greatly increase, and that they cannot be all collected and destroyed previous to the sowing or planting of such crops; and if the weather succeeding these operations were even favourable for collecting them in the intervals, after the pulverization effected by the best implements, and supposing that they could be burned or removed without damaging the crops, still all that part of the land under and near the rows would remain in a foul state. But in seasons unfavourable for pulverizing such lands by horse-hoeing, the root-weeds could not be destroyed even in the intervals, and I am satisfied, that under such circumstances, a perfect bare fallowing will be found the most judicious management. In treating of fallowing, Mr. Lawrence says, "In these parts, where judicious cropping has been substituted to fallows, every species of product, including the rental, has experienced a wonderful increase to the certain emolument of all parties concerned, the landlord, the tenant, and the public." Rents, however, I must contend, have advanced in a greater ratio in the northern counties of England and in Scotland, than in the southern districts; yet in the former, *constant cropping* has not been, and I believe never will be adopted, in the management of much the greatest part of our *very strong and wet soils*! This corroborates what I have stated as to the value of the bean and succeeding wheat crops, being overbalanced by that of wheat after a bare fallowing, &c.

Many of the cultivators of the soil in the southern parts of this kingdom are as enlightened and able as any cultivators in the world; but that, as a body, the farmers of the south are as able and enlightened as those in Scotland and the north of England, where the farms are generally large,

\* He states, that long after being mixed for compost manure, they will again vegetate. If mixed with lime, however, and properly turned over for a length of time, they will putrify, and may be applied to advantage as manure.



and held under the security of long leases, I beg leave to deny. In the latter parts, agricultural books and agricultural knowledge are more diffused, and as necessity is the mother of invention, you may rest assured that the high rents paid by the northern cultivators would *alone* oblige them to adopt and eagerly pursue every improvement in husbandry. That of constant *cropping* has not escaped their most serious attention; and if your Hertfordshire correspondent has been informed that they are *prejudiced* against it, his information has been incorrect, for no agriculturists in the world pursue the cultivation of turnips with greater avidity and success; and on dry loams, which are too strong for the culture of that valuable root, other kinds of fallow crops, well horse-hoed, and wheat after them, are raised upon an extensive scale. Thus far we can cordially go with the advocates of that (in many situations) admirable system, but being satisfied that, in our climate, in most seasons, very strong wet lands are unfit for that mode of cultivation; we not only refuse to go farther, but entertain an opinion that some authors who are very warm advocates for drilling and horse-hoeing, have, by asserting too much, injured the cause they intended to promote.

Mr. Lawrence's observations on restrictive covenants, in favour of fallowing, and the mischievous consequences which result to the country from employing men ignorant of rural affairs, in the management of landed estates, are highly judicious, and deserve the particular attention of every landholder who wishes to promote his own, and his country's interest.

In order to satisfy your Hertfordshire friend that the raising of wheat, after drilled beans, is extensively practised in favourable situations, in the north, I beg leave to refer him to the speech of Charles Taylor, Esq. Secretary to the Society for the Encouragement of Arts, Manufactures and Commerce, delivered in May, 1802, who states, that, "Robert Brown, Esq; Markle, near Haddington, Scotland, by producing a crop of beans, on ninety-five acres, and sowing the land with wheat in the same year, has proved, that by observing a judicious rotation of crops, the common plan of fallowing land may be rendered in a great measure, unnecessary. The silver medal has been adjudged to him for his communications on this subject." By these communications it appears that the beans were drilled with intervals of about twenty-six inches, and well horse-hoed, and that the succeeding crop of wheat was a very productive one, if I mistake not, from thirty-six to forty Winchester bushels per acre.

Mr. Brown is not only distinguished for great knowledge in the cultivation of the soil, but for the zeal and ability with which he has diffused it for the benefit of mankind in gene-

ral, and the inhabitants of this kingdom in particular; but though he raises, almost every year, great quantities of wheat after drilled leguminous crops, *he is an advocate for summer fallowing very strong and wet soils.*

If I am rightly informed, great quantities of wheat and bean-seed were committed to the ground in some of the southern districts, within the last month; scarcely any spring wheat known, and not a single quarter of beans (I believe) has yet been sown in this county. Intense frosts have prevailed for two or three weeks past, and now the ground is covered with snow to a considerable depth. In such late seasons, when there is no probability either of preparing the land properly, or of getting the beans removed in autumn for sowing wheat, e're the season be too far advanced, perhaps *early* gray pease, might on some strong, but dry soils, be cultivated with advantage. Last year I sowed ten acres with such peas, in rows, about the middle of April, the intervals, which were nearly thirty inches, were well hoed; and though the land was but of inferior quality, the pease were a pretty good crop, and removed so as to get it limed and sown with wheat on October. The soil was clean and fresh, and no fallow wheat, on such land has a better appearance.—*Last year, however, was uncommonly favourable for such management.*

In this county, and several parts of Scotland, drilling wheat and barley is practised on an extensive scale, and seems on the increase. The general mode is to sow with intervals of about ten inches; and in autumn, the quantity of wheat sown, is from one and a half to two bushels\*; and in spring, from two to two bushels and a half; and of barley, about the same per acre. I think this is considerably more than the quantity of seed generally sown by Messrs. Close and Amos, and other great advocates for the superiority of the drill husbandry. I agree, however, with your very intelligent correspondent, Agricola Norfolciensis, in thinking that these gentlemen have been too sparing in the quantity of seed proposed for land in general. The drill machine, in general use in the north, is somewhat different from Mr. Cook's, and is, in some respects, supposed to be better constructed. Perhaps at some future period I may send you a paper containing the improvement.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

\* Few farmers sow less than about two Winchester bushels per acre in October.

## FENCES CAPABLE OF SECURING BLEACHING-FIELDS, ORCHARDS, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

**T**HE fences usually commented upon, are only intended to preserve fields from the intrusion of cattle; but, on some occasions it is necessary to have a fence that would even resist the efforts of men to break through it; as round bleaching-fields, orchards, &c. the want of which often subjects the proprietor of such fields to very disagreeable accidents. And, as such a fence might, on some occasions, be procured at no great expence or trouble, it were to be wished that the method of doing this were more generally known than it is at present.

To effect this, it is necessary to begin by trenching up, or ploughing, a large belt all round the field you mean to inclose, of forty or fifty feet, or more, in breadth, if you find it convenient; the outer edge of which should be inclosed by a good dike, or a ditch and hedge. This belt should be kept in culture one year, and well manured if your situation will admit of it, and laid up before winter in such a manner as that no water may be allowed to lodge upon it; and planted in the winter time all over with plants of eglantine, so thick as not to be above two feet from one another; and between these put a number of young birch plants, not above two years old, interspersed with hazels, oak, ash, rawn, (wild service,) and other trees that you think will thrive on your soil; together with thorns, hollies, brambles, and woodbines, (honey-suckle): and having then fenced it from cattle, and kept down the weeds that may rise upon its surface with a hoe, as long as you can conveniently get access into it, leave it afterwards to nature. If this be done, and your soil be not extremely bad, the belt in a few years will be entirely filled with a close bush of trees, so intermixed with the bending brambles of the eglantine, and bound together by the trailing shoots of the bramble and woodbine, as that no animal above the size of a cat could penetrate; especially when it is of such a depth as I have recommended.

The first hint that I got for a fence of this kind, was from a small thicket of brush-wood that I had planted for ornament, pretty much in the manner above described, which in a short time became so interwoven with the sweet briar, that it was impossible to find any access into it. But as all kinds of trees and shrubs, if planted very close to one another, become naked at the root, when they arrive at any considerable size, care should be taken to prevent it from ever coming to

that state, by cutting it down whenever it becomes in danger of being open at the root. And as it would be improper ever to leave the field entirely defenceless, it is a great advantage to have the belt as broad as it conveniently may be, so as that the one-half of it may be a sufficient fence, and the brush-wood that this afforded at each cutting would, in almost every situation, yield such a revenue as would do much more than indemnify the proprietor for the rent of the ground that was thus occupied. And if the field was in such a situation as required shelter, some trees might be allowed to grow to their full size about the middle, without any inconvenience, if the belt were of a sufficient breadth.

The above account is taken from a work in the British Museum, to which I think few of your readers will be likely to have access: I have, therefore, thought it would be acceptable to you, and I have no doubt the expedient would be very beneficial in many situations.

*Wood-Street,  
March 14, 1804.*

I am, Sir, your's, &c.  
ARBUSTIVUS.

## ON WOOD-LANDS, IN THE DISTRICT EXTENDING FROM CHATHAM-HILL TO CHARING.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N a former letter I signified my intention of giving you an account of wood-lands in Kent. It is supplied from some strictures I have by me, furnished from an authority which I think deserves particular respect and attention. On the importance of the subject, I am sure it is unnecessary I should make a single observation.

The soil on which these woods grow is for the most part flint and clay, with chalk at no great distance from the surface. Where chalk is the chief component part of the upper surface, the wood is of slow growth and little value. They are generally cut down from ten to fourteen years growth, and the price varies from 5l. to 15l. per acre, depending in a great measure on the goodness of the wood, the demand and the price of poles. Hop-poles are the chief article which makes wood valuable in this part of the country, where there is not only a constant demand for them at home, but they are carried as far as Maidstone, and to a considerable distance beyond; the planters preferring the poles which grow upon the hills to those of quicker growth, and nearer home.

Part of the wood-land in this district is in the hands of the proprietors, and part is let to the tenants occupying the adjoining farms. When fit to fell, it is generally sold by value.

*Ag. Mag. Vol. 10.*

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tion. After the purchase is made, and the leaf is off, the wood is parcelled out among the different workmen employed by the purchaser. The first step is to clear the stocks of the small spray, bushes, &c. These are made up into *bavins*, bound with two wifts\*, and are called winter kiln *bavins*; they should be six feet long, and two in circumference over the bands: the price of making them is three shillings per hundred. If bushes are wanted, the best are bound up in bundles, with one wift, at 1s. 6d. per load, consisting of fifty bundles; and they sell in the woods from 7s. to 10s. per load.

After the stocks are cleared, they are cut down and thrown into ranges, wide enough to admit a team to pass to fetch away the different articles. These are cut out as the stocks are felled, and consist of first and second best poles, first and second ordinary poles, use poles, stakes and binders, thatching rods, austrey rods, hurdle rods, wheel timber, piles and props. The remainder not fit, or wanted for these purposes, is thrown into the ranges, where it remains to employ the woodmen in the spring.

The first best poles are chesnut, ash, willow, and maple; their length should be eighteen feet; their prices vary from 30s. to 35s. per hundred. The chesnut poles are dearest, varying from 15l. to 20l. per hundred in the wood.

The second best poles consist of the same wood as the first, and are only a smaller pole, varying in length, from fifteen to sixteen feet. They sell in the wood from 20s. to 21s. per hundred.

The first ordinary poles consist of oak, gascoin, red birch, beech, and hornbeam; the two last very inferior; their length should be from seventeen to eighteen feet; they sell in the wood from 12s. to 20s. per hundred.

The second ordinary poles, varying in length, from fifteen to sixteen feet; sell in the wood from 10s. to 12s. per hundred.

Use poles consist of ash, chesnut, willow, oak, and gascoin, which are too large for hop-poles. They are cut at a halfpenny each, and sell in the wood from 4½d. to 6d. according to the size, length and goodness of the wood. The largest sort are sold by admeasurement, from 8d. to 9d. and 10d. per foot.

Stakes and benders are cut out of hazel, ash, oak, willow, and maple; they are bound up in bundles, twenty-five in each; the price of cutting is 1½d. each, and they sell in the wood from 4½d. to 6d. per bundle; the length of a stake should be five feet, of a binder, from fifteen to eighteen feet.

\* Local term for bands.

Thatching rods are cut out of the same kind of wood as the stakes and binders, which are not of a proper length for binders, or large enough for stakes. They are bound up in bundles fifty inches each; the price of cutting is 2d. per bundle, and they sell in the wood for 6d. The length of a bundle should be six feet.

Austrey rods are smaller than thatching rods cut out of hazel, they are used to bind billet wood, for the London markets. They are bound up in bundles, one hundred rods in each; the price of cutting is 2d. and they sell at 6d. per bundle in the wood; their length is five feet.

Hurdle rods are cut out to make hurdle gates for folding sheep; they are cut out of the same kind of wood as binders, indeed they are only a small binder, from ten to fourteen feet long. They are bound up in bundles fifty in each; the price of cutting is 2d. and they sell in the wood at 6d. per bundle.

Wheel timber is cut out of large beech of two or three falls growth; it is used for fellies of wheels; it should not be less than seven inches diameter at the small end. It is cut down for 1d. for every length of three feet, and sold in the wood from 7d. to 8d. per length, if sold by admeasurement, at the same price per foot. If smaller, it is cut out for axle-trees, plough cheps and wrests. Axle-trees should be seven feet long, and six inches and a half in diameter at the smaller end: they are cut for 1d. each, and sell in the wood for 10d.; plough cheps should be five feet long, and five inches in diameter at the small end; they are cut for 1d. each, and sell in the wood for 6d.

Plough wrests should be four feet long, and five inches diameter at the small end; they are cut for 1d. each, and sell in the wood for 2d.

Piles are cut out of beech and hornbeam; they are used to prevent the tide from washing away the chalk at the footing of the sea walls, and are cut at different lengths.

	s.	d.		£.	s.	d.	
12 feet long	1	1½	} each {	6 feet long	1	15 0	} per hundred.
11 ———	1	0½		5 ———	1	5 0	
10 ———	0	11½		4 ———	0	19 0	
9 ———	0	10		3 ———	0	12 0	
8 ———	0	8½					
7 ———	0	7					

N. B. The above is the price of the poles delivered at the place where they are to be used. Land carriage is 5s. per hundred for six feet piles, 4s. for five feet, 3s. for four feet, and 2s. for three feet piles. If they go by water carriage the price is the same.

Props which are used in the coal mines at Newcastle, are cut out of oak and birch; they should be six feet four or five

inches long, and be two inches and a half diameter at the small end: the price of cutting is one  $\text{d.}$  and sell in the wood at  $2\text{d.}$  each.

These are the chief, if not all the articles, cut during the winter. In the spring, what remains in the ranges is made up, part into summer kiln; bavins which are made of the smallest wood, and bound with two wifts, and should be six feet long. The price of making is  $3\text{s.}$  per hundred, and they sell in the wood from eight to nine shillings per hundred; part is made into household bavins, being the best faggots which are made; they should be six feet long, and two feet over the band; the price is also  $3\text{s.}$  per hundred. The remainder is cut out into cord wood, each stick should be three feet and a half long; the length of the cord fourteen feet, and it should be stacked three feet high. The price of cutting and stacking is  $2\text{s.}$  per cord, and the cord sells in the wood from  $12\text{s.}$  to  $16\text{s.}$

It has been found by those who have been very attentive to their wood-lands, that wood, like every thing else, decays and produces fewer poles every fall, unless they are replenished. This is best done in the autumn, after the wood is felled. The plants, whether chesnut, ash, or willow, should be taken up from the nursery with as much earth to their roots as can be conveniently done, and their small roots should be cut as little as possible. Strong plants taken up in the manner, and planted with care, seldom fail: they should be looked over the next spring, to fasten those which the frost may have loosened.

The tithe of woodlands was a few years ago at  $2\text{s.}$  in the pound; but now varies from  $2\text{s. } 3\text{d.}$  to  $2\text{s. } 6\text{d.}$  and  $3\text{s.}$  Many clergymen are of opinion, that the wood ought not only to be cut down, but to be made up in the different articles for sale; but this is not true: if a clergyman and purchaser should disagree, all that the latter has to do, is to sever every tenth perch and leave it: the expence of doing this is found to be about  $3\text{d.}$  in the pound.

If wood therefore is sold at a fair valuation, it appears unreasonable for any clergyman to demand more than  $2\text{s. } 3\text{d.}$  in the pound.

I am, Sir, your's, &c.

April 4, 1804.

TOPOGRAPHUS.

### HOUNSLOW HEATH, FINCHLEY COMMON, AND ENFIELD CHACE.

*To the Editor of the Agricultural Magazine.*

SIR,

THE following observations on a considerable tract of land in the immediate vicinity of the capital, was communicated a few years ago to a respectable Agricultural Soci-

ety. Among other improvements in these districts, those of one of your correspondents are introduced, and I shall be happy to see some remarks from his intelligent mind on the more recent ones in which he has been instrumental, or with which he has become acquainted. With respect to Great Britain, London is the common centre of all the useful arts; from this centre the luminous rays of genius diverge in every direction; but I am inclined to think some of our remote cultivators are disposed to smile at our expence when they compare the instructive lessons they receive from the capital, to the dark, unproductive territory with which it is encompassed.

Hounslow Heath, one of the most extensive commons in this part of England, presents itself to the eye of a stranger as a very noble field of improvement. Within ten miles of the capital, and in the midst of a country which, in point of cultivation, is almost wholly a garden, it is wonderful that means have not been fallen upon to convert this extensive waste into arable land; and it is the more to be regretted, as it could be done at no great expence, the soil in general being of an excellent quality, and capable of producing crops equal to any in its neighbourhood. It is said that twelve contiguous parishes have an interest in this extensive common. To the poorer class there the right of pasturage may be a matter of some little conveniency, as well as emolument, but the advantages that would redound to the community at large, from its improvement, would, it is obvious, greatly overbalance any trifling private convenience of that kind. In regard to the cutting fuel and turf, which the poor in the neighbourhood of those commons also enjoy, it has been proved in a variety of instances, beyond a possibility of doubt, that the exercise of such a right is not half so beneficial to them as their constant labour being required in the cultivation and improvement of the same soil. A portion of their wages will purchase fuel of another description, such as coals or wood, at a much cheaper rate.

To enter into any minute detail of the means of improving this common, may not at present be necessary. But in the mean-time it may be proper to suggest, whether in the event of a division of this extensive waste, this purpose would not be as well and more quickly promoted under leases of a reasonable endurance, subject to a progressive increase of rent, than on any other plan. Such a mode of payment of rent is not only natural on new land, but is the best and most effectual stimulus to industry. The exertions of a number of men setting out on a business of this kind, and improving upon the knowledge and experience of one another, would not only be an excellent school for the observation of others, but would



prove the surest and most rapid means or bringing the ground to the highest pitch of cultivation.

But whatever method may be adopted, it is certain the inclosing and improving this extensive waste is an object of great national concern, and should be paid immediate attention to. The parish of Stanwell has begun, and why should not the other parishes follow so good an example?

Finchly Common is another extensive waste, in which there are large quantities of excellent gravel for roads, but the greater part is a clay soil, and capable of high cultivation; the means of improving a soil of this quality, by the common methods of summer fallow and liming, or paring and burning where the surface is covered with strong heath or ling, with the command of manure which will at all times be obtained, and a proper rotation of crops at the commencement would quickly and effectually convert this sterile waste into a tract of corn and grass ground of fertility, equal to the most sanguine expectations of the improver\*.

The remains of Enfield Chace, which still contains from 2 to 3000 acres unimproved, is also another of those tracts which demands the attention of the public, and calls loudly for the operation of the industrious farmer. The soil is naturally good and very improveable, consequently the same observations are applicable to it which have already been made in regard to Hounslow Heath and Finchly Common; and the time, it is hoped, is not far distant when such wastes shall no longer remain a disgrace to the country. In regard to Enfield Chace, in consequence of an act passed fifteen years ago, a considerable part of it has been inclosed and brought into cultivation. The improvements there have been considerable, particularly those of Francis Russel, Esq. and of Dr. Wilkinson; but, in some instances, the expences, it is said, exceeded the profit, and that good land might have been bought at a cheaper rate. It is doubted whether the best mode of improving waste lands was then known, or, at least universally practiced. It is certain that unless a judicious system is pursued, the profit cannot be great. But now so much additional light has been thrown upon the subject, that any person de-

\* According to Rocque's Map of Middlesex, Hounslow Heath contained, in 1754, about 6658, and Finchly Common 1243 acres. Some parts of Hounslow was inclosed about 50 years ago; the particulars respecting which may be worth inquiry. In 1789, such part of this heath as belonged to the parish of Stanwell was inclosed by act of parliament. By a clause in the act power was given to the commissioners named in it, to sell by auction such part of the heath as was necessary to defray the expences of the inclosure. The waste thus sold, produced 21l. per acre. The greater part was purchased by Edmund Hill, Esq., and was soon brought into a very good state of cultivation. The open fields of Stanwell were at that time inclosed, by which the proprietors greatly improved the value of their estates.

sirous of improving a waste, cannot find any difficulty in procuring information respecting the best method of doing it, according to the nature and quality of the soil, and the circumstances to be taken into consideration. Where the soil of a newly improved common is inclined to be a stiff cold clay, the application and operation of lime, as a manure, is attended with the most beneficial and happy effects, and if the ground is thoroughly drained, can be safely recommended from experience. Afterwards every thing depends on a proper rotation of crops, and laying down the ground to grass in the highest heart and order, without exhausting it, on the first outset by a repetition of impoverishing crops of corn, which, with a view to a too early reimbursement, is often unhappily the case.

Southgate,

March 30, 1804.

I am, Sir, yours, &c.

T. Y.

METHOD OF QUICKLY PRODUCING FRUIT FROM TREES  
DISPOSED TO RUN TO WOOD. OF OBTAINING GOOD  
SHOOTS, AND OF IMPROVING THE TIMBER TREES.

*To the Editor of the Agricultural Magazine.*

SIR,

I AM very happy to see that whatever others are inclined to neglect, from local prejudices and temporary passions, you consider that the discoveries even of the French nation are to be respected, and that while we indulge in all the violence of political animosity, we are to consider science as the region of peace, and that the intercourse of philosophy should never be interrupted by the accidental ebullition of national resentment.

It is on this account, Sir, that I have extracted for the observation of your readers the following remarks of Monsieur A. G. M. Suriray Delarue, which he has introduced into the *Journal Physico-Economique*, and I am confident it will afford entertainment to your friend Arbustivus, and to the many intelligent correspondents of your useful Miscellany.

There are few horticulturists who have not the mortification to see in their orchards a number of fruit trees, of the apple kind, that push out abundance of vigorous branches, but yet constantly remain barren notwithstanding the luxuriance of their growth. To remedy this defect, it has been proposed to bore a hole in the trunk of the tree, and to put into it a wooden peg, or to dig at the foot of the tree and cut off one or more of the large roots. This troublesome process, however, has been attended with very uncertain success, and has, therefore been but little practised.

These methods, in fact, are incapable of curing the evil, because it is not the superabundance of ascending sap, that disposes trees to run to wood, and causes the blossoms to fall off; but too great elasticity of the bark of the tree while yet young that suffers the whole of the descending sap to proceed to the roots, to augment their growth and to form new teguments between the wood and the bark. When these vigorous trees have attained such an age that their bark has acquired strength and solidity, then the sap, interrupted in its circulation, while descending, remains partly among the branches, strengthens the blossoms, nourishes the fruit, increases the size, and advances its maturity. It is evident that if the sap be retained by artificial means we shall obtain the same end, which is effected by nature only, after a considerable number of years, the tree will be rendered fruitful. The most certain way of producing this effect is the annular excoriation.

Buffon was lead to the discovery of this process so important to agriculturists by the following circumstance. Having read in Vitruvius, that "before trees are felled, a hole ought to be bored at the bottom of the trunk to the middle, and that they should be suffered to dry standing, after which they are much better for immediate use;" and finding in Plott's Natural History, that "in the neighbourhood of Stafford it is usual to strip off the bark of the trees, near the root, at the time when they are full of sap; that they are then left standing till the following winter, by which means the outer part of the wood becomes harder, and may be used for the same purposes as the heart."

The Pliny of France resolved to make some new experiments on this subject. He, therefore, in May 1733, directed the trunks of a number of oaks of different ages and sizes to be stripped of the bark; and at the same time, from a like number of trees, of a similar description, he cut away the bark round the whole circumference of each for the space of three inches, at the distance of a yard from the ground. The results of this experiment were as follow: From the upper edge of the wounds, both of the trees that had been stripped, and those with the annular excoriation, proceeded a thick cushion-like substance, or skin, which extended about an inch towards the bottom, for the first summer. In the young trees this substance was of greater extent than the old ones.

Those trees whose trunks had been entirely stripped, lived a longer or shorter time in proportion to their strength; the youngest perished the first year, and the next, vigorous, lived to the end of the fourth. The above-mentioned substance did not extend any farther after the first year, but only swelled a

little. I shall now proceed to the effects of this operation.

The solidity and strength, weight, and hardness, both of the inner and outer wood of the trees that had been stripped were considerably increased. The tegument between the wood and the bark, and which, in the ordinary course of nature is not converted into perfect wood till the end of fifteen years, had grown harder than the heart of the best common timber. The outside of this tegument was stronger than the inside, while it is generally the contrary, as its density diminishes the nearer it approaches the bark.

I must refer to Buffon's *Memoir*\* for a more detailed account of these experiments, from which result this important fact: that by thus stripping off the bark, double the quantity of wood may be obtained from a tree to what it furnishes by the usual practice; and that by this method, a tree forty years old may be used for purposes of which otherwise we are obliged to employ one of sixty years. The wood of those trees of which only three inches of the bark had been cut away, was harder than common wood, but was inferior in strength one fourth to those which had been entirely stripped.

I think I recollect having read in some work, that this method of peeling standing timber trees prevents the wood from being liable to be worm-eaten.

Buffon made the same experiment on fruit-trees. Besides the appearances described above, he observed, that those trees were covered the second and succeeding years, with a greater number of flowers, and at an earlier period, than they would have produced without this annular excoriation. That great naturalist judging that the interruption of the course of the descending sap, occasioned by his operations, could alone be the cause of the extraordinary increase in the number of blossoms upon these trees, thence drew this conclusion; that all the operations capable of producing this interruption would be the best means of hastening the time of fecundity of fruit-bearing plants, and of producing fruit from sterile trees which shoot out an exuberance of wood, and nothing else.

It is unnecessary to state; that the following observations relate neither to the stone fruit trees, or those which like them, produce the more fruit the more they run to wood; they apply only to apple trees, and those which like them do not become fruitful, till age has to a certain degree checked the luxuriance of their vegetation.

*Manner of making the Annular Excoriation to render fruitful such trees as are apt to run to wood.*

1. To make this annular excoriation, with a view to render

\* *Memoirs of the Academy of Sciences, for the year 1738.*

fruitful a tree of this description, the beginning of spring should be chosen: the sap having then begun to rise, the bark no longer adheres to the wood.

2. Cut away a slip of the bark of the trunk just below the branches, if you wish the whole tree to bear, or at the bottom of any particular branch that you may choose to render productive. Attention should be paid not to leave upon the wood thus stripped of the bark any portion of the interior teguments of the bark called *liber*. I have found by experience, that on trees one decimetre in diameter, the annular excoriation should not be made above seven or eight millimetres in breadth, that it may heal before autumn. On branches four or five centimetres in diameter, take away no more than three or four millimetres, and so in proportion, either for apples or stone fruits, when you want to hasten the time of their ripening.

An apple-tree requires a narrower excoriation than a pear-tree, and the quince is still narrower than the former.

3. Branches less than two decimetres in diameter, on which an excoriation in this way has been made, are very liable to be broken in that part by the least bending or agitation. It is, therefore, necessary to strengthen them by means of a strong stick, tied at a little distance above and below the wound.

4. If the wound be made on the trunk of a tree, care must be taken to break off all the shoots that appear below it, otherwise, the ascending sap, taking its course into them, the head of the tree will languish for want of nourishment.

5. A few days after the removal of the bark from the upper extremity of the annular wound, between the wood and the bark issues a production, at first succulent, glutinous, soft, and herbaceous, which hardens by degrees, assumes the colour of the bark, and forms all round the tree a ring of a semicylindrical figure, that is closely attached to the wood.

This ring, of skin, extends itself over the surface of the denuded wood, without however adhering to it. When the wound is not too wide, it reaches the lower edge, and the wound is cicatrized the first year, the tree is then safe: the increase of this ring, after the first two or three months is almost imperceptible. If the wound have been made too wide, the skin is not joined to the lower bark, the circulation of the descending sap is prevented, and before the fourth year the wound will kill all the wood that is above it. No apprehension of this kind needs to be entertained, if in cutting away the bark the proportions I have already mentioned be preserved.

(To be continued.)

## CRITICAL CATALOGUE.

*The Farmer's Calendar : containing the Business necessary to be performed on various Kinds of Farms during every Month of the Year.* By Arthur Young, Esq. F.R.S. Secretary to the Board of Agriculture ; Honorary Member of the Societies of Dublin, Bath, York, Salford, Odiham, South Hants, Kent, Essex, and Norfolk ; the Philosophical and Literary Society of Manchester ; the Veterinary College of London ; the Economical Society of Berne ; the Physical Society of Zurich ; the American Society of Massachusetts ; the Palatine Academy of Agriculture at Mannheim ; the Imperial Economical Society, established at Petersburg ; the Royal and Electoral Economical Society of Celle ; Member of the Society of Agriculture for the Department of the Seine, France ; and Corresponding Member of the Royal Academy of Agriculture at Florence ; of the Patriotic Society at Milan ; and of the Economical Society at Copenhagen. A new Edition, greatly enlarged and improved. 8vo. pp. 575. Phillips. 1804.

THE volume before us, as will be seen by the title-page, is a new and much-improved edition of a very valuable work. Mr. Young's name, indeed, stamps *eclat* wherever it appears, and is too well known in our agricultural annals to demand, or to be benefited by, any eulogium from our pen. It would ill speak our gratitude, however, to the man whose exertions have accomplished so much for the improvement of his country's soil, were we to pass unnoticed, any performance which he might think worthy of presenting to the public.

"At the beginning of every month," observes our author, "a good farmer, whether he has or has not a book of this sort, is obliged to reflect on the work he has to perform in that month ; he ought to foresee the whole at once, or it is impossible he should make a proper provision for its due performance. I leave it to any one to judge, if such an estimate of monthly business can be gained so easily, completely, or systematically, without such an assistance to the memory as is afforded by this work ; and even if a book of this sort, but once in a year, gives intimation of some important work, which might otherwise have been forgotten, its worth must be acknowledged."

The justice of the above observations will surely not be questioned by any one.

In the "*Advertisement*" to this new edition of the "*Farmer's Calendar*," Mr. Young says :

"In various parts of the Correspondence published during the last fifteen years in the *Annals of Agriculture*, I have been called upon for a new edition of this Calendar, and have as often resolved to give it ; but the new improvements which have taken place, made so many and such great alterations necessary, that other and more pressing employments have prevented the undertaking. It is at last completed ; and I hope the Reader will find it, in the present form, worthy of his attention."

By many of our Readers it will be recollected, that some time ago, we reviewed a work similar to the one now before us, written, we be-

lieve, by Mr. Lawrence\*. As a strong proof of the high estimation in which Mr. Young's performance was held, even in its *unimproved* state, we can adduce nothing more favourable than the opinion expressed by the author of the work above alluded to, who says:—"To the practice exhibited in the Calendar of Mr. Young, I have generally adhered in mine, as far as my plan would admit, *since such is still the best prevailing system of the country.*"

It is here requisite to state, that that part of Mr. Lawrence's work, properly to be denominated the *Monthly Remembrancer*, consists of but little more than a hundred pages, while the entire book of Mr. Young is arranged in twelve divisions, corresponding with the twelve months of the year: the bulk of the respective volumes is nearly equal; but Mr. Lawrence subjoins to his *Monthly Remembrancer* a number of distinct Agricultural Essays, while Mr. Young incorporates the subjects of such essays with his monthly directions, as they occur. The Reader will, according to his own fancy, decide on the supposed superiority of plan.

Mr. Young, in the earlier, and present editions of his Calendar, recommends the circular form for a farmer's stock-yard and cattle-sheds. Speaking of the *threshing-mill*, he says:

"The most important object, perhaps, which is answered by this machine, is that of saving barns, which are so very expensive in forming a new farm. I begin with it, as its position determines that of almost every other building in the farmery. There is not the smallest doubt of the propriety or profit of having one of these machines fixed in the principal farm-yard. If the farm be large, and stacks consequently scattered over various fields of it, then it may be right to have a moveable one also; but so many operations are wanting at home, that one should certainly be fixed. I have, in four plates, in the *Annals of Agriculture*, vol. xxxiii. p. 488, explained the relative position of the stacks to be built, on standings on wheels moving, in a circular iron rail-way, so contrived that a very few horses (four sufficient for any common stack) will draw each stack to the mill. This contrivance is essential, as it saves the whole expence of carting the corn, as well as the necessity of waiting for fine days to do it in; and as the expence is moderate, I cannot suppose that any person will now go to the heavy charge of barns and cap-stone standings; when less money will give him much greater conveniences. The circular form of the rail-way, on which the stacks are brought to the mill, is necessary, as being the only one which permits a choice of any particular stack to thresh, without waiting for all or many others being done, before it can be got at; but a straight line, leading to and past the mill is admissible, except for this circumstance, though inferior in some other points to the circular form. But whatever plan may be chosen, the mill should have the granary above it, to hoist up the corn as threshed. It must also have the chaff-house annexed, as the power of the mill must cut into chaff all straw which is used in feeding cattle; and as hay is used in this operation, mixed with the straw, this decides the position of at least some hay-stacks. Close to, and connected to the mill, must be a shed on posts, roofed to draw one stack under, before the thatch is stripped, and from which the corn is delivered at once to the mill. It is turned (so much as is wanted for chaff) into a straw-room, and the rest replaced on the standing of the stack that was last cleared, and being stacked on it with some care, is ready to be drawn away in the circle for litter. This circumstance decides the position of the sheds for cattle and horses; as they should be so placed as to be very near this litter.

\* "The New Farmer's Calendar; or Monthly Remembrancer." Published by Symonds.

Thus situated, they demand hay also in their immediate vicinity, and as hay was also wanted for chaff, all the stacks should be within the circle. Thus far every thing is connected, and each building so placed, that it cannot be supposed in any other place, without a manifest inconvenience following. If much cows be in the circle, which they ought to be, this article demands another combination of the dairy and the piggery, which must also be connected, but at a due distance from each other. I have, in the plans above alluded to, supposed the circle of cattle and team sheds to open on the outer side, to bring in the cattle, and to void the dung into a circular repository that surrounds all the sheds."

Mr. Lawrence, controverting the propriety of part of this plan, says:—

"But with all due respect and deference to the opinion, and unequalled experience of Mr. Young, I conceive that certain important advantages would be lost, by placing the stacks within, and the cattle withoutside the circle. The buildings would be placed out of the way of doing their best secondary office, that of affording shelter; and the benefit of a fold-yard, an important one indeed, to growing and lean cattle, seems entirely excluded. I should greatly prefer placing the stacks without the pale, in an appendant circle, granting that figure to be necessary, for the valuable purpose of their sliding along an iron groove, or road, to the threshing mill."

Mr. Young, however, maintains his opinion; with what reason our readers shall judge. He conceives that to have the sheds to open within the circle is very erroneous.

"The beasts," he says, "must for this purpose be reversed; their heads to the outside, and the dung voided within the circle. This completely deranges the whole design, and converts much convenience into a most inconvenient arrangement. The chaff, hay, &c. must be conveyed *without* the circle to the heads of the beasts, by a long walk, instead of the nearest line; the dung must be within the area, cutting off all connexion with it; dirt and litter will be found where cleanliness should prevail; and nothing gained in return but a little better shelter, supposing the sheds to be open; but as the contrary is supposed, this object would not be varied; so that I must adhere to the original proposal, as very much superior in convenience to the alteration thus indicated."

Our respective authors differ not less materially, as to the utility and value of the grain called BUCK-WHEAT. Under this head, in his directions for April,

"The lands designed for Buck-wheat," says Mr. Young, "in May or in June, should be well-tilled this month, ploughed and harrowed well at least once. It is not necessary for that grain, but for the grasses which should be sown with it, and for the important object of making all the feed-weeds grow, in order to kill them by the following tillage. This April preparation marks the land for Buck-wheat. I shall therefore take this opportunity to advise the farmers in general to try this crop. Nineteen parishes out of twenty, through the kingdom, know it only by name. It has numerous excellencies, perhaps as many to good farmers, as any other grain or pulse in use. It is of an enriching nature, having the quality of preparing for wheat, or any other crop. One bushel sows an acre of land well, which is but a fourth of the expence of seed-barley. It should not be sown till the



end of May. This is important, for it gives time in the spring to kill all the feed-weeds in the ground, and brings no disagreeable necessity from bad weather in March or April, to sow barley, &c. so late as to hazard the crop. It is as valuable as barley. Where it is known, it sells for the same price, and, for fattening hogs and poultry, it equals it. It is, further, the best of all crops for sowing grass-seeds with, giving them the same shelter as barley or oats, without robbing."

On the same subject, Mr. Lawrence observes: "This grain, on its first introduction into England, was lifted up by report far beyond its real value. I can speak of it from actual experience throughout a number of years, during which I used it in large quantities, with cattle of every description, (sheep excepted) rabbits and poultry. The invariable result, its inferiority to every other grain, but superiority over other vegetable food, namely, carrots, potatoes, and the like. In the state of herbage, cattle, I know, will eat it, but it is from Hopson's [Hobson's] choice, as a hundred trials have convinced me. Its fitness for ploughing into the land is undoubted, on account both of its bulk and succulence. The juice of it, however, is watery, and far enough from nutritious. Hogs fatten neither so fast with it, (and I have tried many hundred quarters for that purpose) nor is the flesh so firm as that fattened upon corn; I have expended it in large quantities, ground, with hard-working horses, both draught and saddle, but the difference of price by no means compensated for its inferiority to oats and beans; and besides, it did not always agree; we sometimes fancied it had a kind of stupifying effect. I tried it with a stock of several hundred head of poultry, and it was in the same degree inferior, both with the fattening and laying stock. I do not hear that it is very highly prized in the distillery. In fine, Brank is surely valuable upon land that will grow nothing else, and is produced with small expence; but when ready, its best application is to the market.

"My last crop of Brank was in 1791, upon four acres of clayey loam, of moderate fertility, but lately old meadow. A bushel per acre was sown the first week in June; the green crop was most luxuriant, but being late, it was got up wet, and the stack at the same time left without thatch; of course the sample was spoiled; and what was worse, the product did not amount to two quarters per acre, not worth, as feed, fourteen shillings per quarter. It has been said, that this grain being black, cannot be discoloured by wet, which is by no means a practical remark, since its discolour consists in the loss of its fine black; beside which, the grain feels cold and damp, to the great injury of the sample; wet, or dry, the only use of its haulm is under foot. To those who expect to get money by Buck Wheat, I recommend early sowing, and even to allow it the manure necessary for a fallowing wheat-crop. I should think, by such management, five, perhaps ten quarters, might be obtained from an acre of good land, which would remain in excellent order for wheat. This necessarily supposes land in no want of late spring tillage. In this case, should a suspicion be entertained of the crop running too much to haulm, it might advantageously be rowed and hoed. I have rather

enlarged upon the article, having read so much in its recommendation."

Some very useful tables are appended to Mr. Young's volume, which we now dismiss with recommending it to the serious attention of our readers.

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## HISTORY.

### National Transactions.

#### IN INDIA,

**T**HE war with the Mahrattas continues to withdraw the care of the Government from the commercial interests of the Company. Nothing has yet occurred to alarm us for the success of our arms on that Continent. But every thing concurs to suggest, that the extension of our conquests in India, would be, in fact, a misfortune to us.

The late events in the Island of CEYLON, appear still more and more alarming, by every new piece of advice which is received from that island. Major Davie, and one or two other officers who were made prisoners with him, are said, in some accounts, to have been put to death, in others, still to survive. But the forces of the King of Candy, have driven the British from all the posts by which they had held communication with the interior country; and now, even besiege them in their intrenchments on the coast. It is, however, believed, that large reinforcements from Madras, may, ere this time, have gone to the assistance of the British in Ceylon.

**I**N EGYPT, the Beys are again masters; the Pacha, representing the Turkish Sovereign, still remains, as it should seem, by their sufferance; and nearly the same sort of government as before the French invasion, appears to be about to be re-established. Several of the Consuls residing in that country, on account of the commercial affairs of different nations in Europe, complain of injury, and a violent infraction of their rights, in a late instance, by the Pacha; but the violence has ceased, and they are again in freedom and security.

Disorder and insubordination prevail, to a considerable degree, in the European parts of the TURKISH Empire. The Turks dread an attempt of the French upon the Morea, and have made some preparations for resistance.

The Republic of the SEVEN ISLES, still subsists under the protection of the Turks and the Russians. Some disturbance has been lately excited in it, on account of certain exiles who had taken refuge in the Isles. A payment of the stipulated tribute from this Republic to the Turkish government, has just become due, for the first time; but we do not know whether it have been yet made good.

**I**TALY is, in its interior parts, almost every where subject to the immediate authority or the influence of the French. But, from the port of Toulon to the Island of Malta, the English are almost every where masters of the entrances into its harbours, and of its whole sea-coast.

The SPANIARDS still enjoy their neutrality. Though made, perforce, subservient in it to a very great degree, to the interests of France, they shew, in general, the most friendly private dispositions toward the British.

The PORTUGUESE maintaining, also, a neutrality for which they have paid dear to France, are, in consequence of their greater distance from French invasion over land, and their more entire dependence on British commerce, still more friendly than the Spaniards to the people of this country.

IN FRANCE, a conspiracy to dethrone the First Consul, has been lately detected. Georges, a Chief of the Royalists of La Vendee; Pichegru, the conqueror of Holland; and Moreau so illustrious for his victories in Germany; are said to have been its chiefs. The ultimate object is said to have been, to put an end to the revolutionary troubles of France by the restoration of royalty. The leaders, with a number of those who are said to have been inferior accomplices in the plot, have been arrested, are now under strict confinement, and are to be brought to a trial, at which they will not have the benefit of the sentence of a Jury. In the mean time, public opinion appears to be divided in France, in regard to the reality of the alledged plot, or its fiction by Bonaparte, as a pretence on which he may rid himself of those men by whose existence his personal fears and jealousies are the most alarming. The army of France is in the greatest force; and is, as much as possible, in the hands of none but officers in whom the First Consul can put confidence. On the sea-coast, in both France and the Dutch Provinces, the preparations for an expedition against this country, are continually increased. Full twelve hundred gun-boats are now in readiness at the Port of Boulogne; according, at least, to the most credible accounts which have been received thence. The menace of invasion is raised continually louder, and in a tone of more earnest decision against Great Britain. A small Squadron of Dutch gun-brigs has escaped to cruise in the North Seas. An embargo on the ships in the ports of Great-Britain, prevented any of our merchant-vessels in the Northern trade from falling into their power when they first sailed. They now await at Bergen in Norway, the chances of lending assistance to an invasion of the North of Scotland, or of making prizes of some stragglers of the British merchantmen that may sail, as the spring advances, to the Baltic, for Archangel, and the ports of Norway or Gothenburg, or to the whale fishery.

IN GREAT-BRITAIN, the nation regards itself as having gained a tower of additional strength by the recovery of our most gracious and beloved Sovereign, from an indisposition which alarmed and afflicted us more than if an invasion had actually landed on our shores. The daily reports of the state of the King's health, have been discontinued, on account of his entire convalescence. His Majesty now pays his wonted attention to the dispatch of public business. The party contests which had begun to arise in Parliament during his illness, have ceased; and those hopes which our enemies had begun to build on the probability of some confusion and uncertainty in our counsels amid the public affliction, will, we doubt not, be utterly disappointed.

The whole number of ships of war in the British navy, in commission and in effective service, exceeds 1,500. On the stocks, or in a progress of equipment, are 373. Some of the ablest Admirals in the service have declared, that the Squadrons on the different stations were never in a better state than at present to accomplish the purposes for which they are sent out, Gun-brigs, sloops, and small frigates, the ships which we employ to blockade those ports in which the French preparations are in the greatest forwardness, have been declared by the best judges to be the fittest with which to achieve the destruction of their gun-boats. Sir Sidney Smith blocks up Flushing, so that it is expected that he may be able entirely to annihilate the force which has been there so long in preparation. The Jersey and Guernsey privateers make frequent captures of vessels on the adjacent French coast. Late dispatches from Lord Nelson intimate, that he still commands the access to the port of Toulon, and that the French fleet which was in that port, has not, as was once feared, been able to escape out to sea. It is said that our Government has taken measures to ruin some of the enemy's ports entirely, by sinking, at the entrance, hulks of vessels laden with stone, in the narrowest parts of the passages, by which alone these ports are accessible to shipping.

In Parliament, the accustomed financial business has been advanced, as far as was usual at this time, in former sessions. Motions for enquiry relative to the navy, to the state of affairs in Ceylon, to the war with the Mahrattas, and to the state of his Majesty's health, were made, in the course of March, discussed, and rejected. The motion for enquiry relative to the state of the navy, had Mr. Pitt for its author. Mr. Fox and his friends joined Mr. Pitt in voting for it, when the House divided on the question. The motion was rejected by a majority of only 201 to 130. Mr. Sheridan, and his friends voted with the Minister on that occasion.

## Agriculture.

### LORD SOMERVILLE'S ANNUAL SHOW OF CATTLE,

#### AT LANGHORNE'S REPOSITORY.

*Monday, February 27, 1804.*

**T**HIS day, at eleven o'clock, the spacious and convenient yards and sheds of Mr. Langhorne, Stable-keeper, in Barbican, were opened for the exhibition of the Cattle, Sheep, and Pigs, sent in from almost every part of England, as candidates for the annual prizes so liberally given by Lord Somerville.

I. For pairs of Oxen, that have worked together for the space of three years, previous to their being turned up to grass, aged between 5 and 8 years, weighing between 100 and 180 stone (of 8lb.) which have worked till some period between the 20th of April and the 1st of May last; the state of the oxen as to flesh, on the 1st of January, 1803, and of the number of days' work done by each, between that time and the 25th of April last, to be certified by proper witnesses, of the facts; also that the oxen have eaten no corn of any sort, or potatoes, and that the straw they used was first clean threshed: the exact weight of oil cake, if any was eaten, is to be stated.

The prizes are, for the best pair 30*l.* and, for the next best pair, 20*l.* to be equally divided between the grazier and the farmer who worked them, in case there were different persons.

Among the numerous candidates for these prizes, were two Devon oxen, worked by Mr. Lowman, and fed by Mr. Webber; two Hereford oxen, worked by Mr. Knight and Mr. Skyring (owing to one of the original pair having died) and fed by Mr. Westcar; two Herefordshire oxen, and two Glamorganshire oxen, all worked and fed upon his Majesty's Flemish, or Cranbourn, Farm, in Windsor Great Park; two Glamorgan oxen, worked and fed by Mr. Waters; two Suffex oxen, worked and fed by Sir Thomas Carr; two Hereford oxen, worked and fed by Mr. Hudson; two Devons, worked by Lord Somerville, and fed by Mr. King; two short-horned oxen, worked by Mr. Harper, and fed by Mr. Higgins; two Herefords, worked by Mr. Smith, and fed by Mr. Drake; a Suffex ox, and a freemartin, or barren cow (twins) worked and fed by the Earl of Egremont; two splayed Suffex heifers, worked and fed by the Earl of Egremont, &c.

The successful pairs of oxen are to be slaughtered on the following Friday not knocked down by the often repeated strokes of the pole-axe, but by the more humane mode of pricking them in the spinal marrow behind the head.

II. For sheep, in pens, of five ewes each, not in lamb, in a fine store state, that have not been taken from the flock more than ten days from the commencement of their journey to Town, or forced beyond the average keep of the flock; the ages of the ewes to be not less than 10, or more than 13,

months; and keep and ages to be particularly certified; a prize of 30*l.* to the breeder of the best pen; also for pens of five fat wether sheep of any short-wooled breed, with or without horns, four or six toothed; the exact age, duration of work in the fold, period of fattening, and quality of food to be certified; a prize of 20*l.* to the breeder of the best pen.

Among the candidates for these prizes were five ewe hogs, of the Merino and Ryland breed, 12 months old, bred and belonging to Lord Somerville; five South Down ewes, 11 months old, bred by Sir Thomas Carr; five South Down ewes, 12 months old, bred by Mr. Coke; five South Down ewes, 12 months old, bred by Mr. Hill; five South Down ewes, 10 months old, bred by Mr. Western; five South Down ewes, 11 months old bred on his Grace of Bedford's Maulden Farm; five South Down ewes, 11 months old, bred on his Grace of Bedford's Woburn Farm; five Dorset ewes, 13 months old, bred by Mr. Bridge, &c. Also, five South Down wethers, 4 toothed, 24 months old, bred by Mr. Ellman, and fed by Mr. H. King, jun.; five South Down wethers, four toothed, 35 months old, bred by Sir Thomas Carr, &c. Two of each pen to be killed, and their carcases exhibited for the inspection of the judges who are to decide the prizes, and of the company in general.

III. For the best fat pig of any age or breed, a premium, and a piece of plate. The candidates here were Mr. M. Duckitt's white sow, two years and a quarter old; Mr. Whittle's large pig; Mr. Western's three small pigs; Mr. Wakefield's two small pigs; Mr. Pickford's two large fat pigs; Mr. Smith's pigs, five months old; Mr. Hudson's two small pigs; Sir Thomas Carr's black pig; Mr. Clayton's fat pig, &c.

Besides the candidates for prizes, Mr. Ellman shewed a very fine *Sufflex* cow; Mr. Coke, two South Down sheep, three shears, and a new Leicester three-shear sheep; the Duke of Bedford also shewed a South Down sheep; Lord Somerville, a fine ewe, of the Merino and South Down breed; and Mr. Wakefield, a stallion and mare of the *Suffolk* breed, very fine made, handsome animals.

The carcases of two sheep, of a cross between the Spanish or Merino, and Ryland breeds, and two others of a cross between the Spanish and South Down breeds, were exhibited, which were bred by Lord Somerville, and fed on grass only, and were killed in preparation for the Dinner on the occasion. Fatter or finer mutton need not be seen, although so much has been said against the Spanish breed, on account of its not being disposed to fatten.

In the centre of the yard several useful implements were exhibited, among them a *Somerfetshire* waggon, with fifteen drags to lessen the velocity of the carriage down a hill; Lord Somerville's patent short beamed plough; Mr. Lester's chaff cutter, rubbing, or threshing machine; harrows, horse-hoe, and a double shared plough, with a turnip drill attached.—Mr. Dugdale's horse-hoe, turnip-drill, and a turnip-slicer; the latter is a very simple and useful implement.—Mr. Gibbs exhibited bags of the seeds of the following natural Grasses: *Anthoxanthum Odoratum*, *Cynosurus Crissatus*, *Alopecurus Pratensis*, *Aira Cœspitosa*, *Festuca Pratensis*, *Aveoa Ekatoir*, *Lolium Perenne*, of an early or improved variety, and *Dactylis Glomerata*; also of *Achillea Millefolia*, or Yarrow; and *Releia Leuteola*, or Weld, used in dying yellow colour.

Among the numerous and very genteel company assembled, we noticed his Grace the Duke of Bedford, Lord Somerville, Lord Wm. Russell, Sir Thos. Carr, Sir Watkin Williams Wynne, Sir John Honeywood, Mr. Northey, Mr. R. Byng, Godfrey Thornton, Esq. Mr. Higgins, Mr. A. Young, Dr. Cline, J. Perry, Westcar, Ellman, Buckley, Kirwan, Pickford, Honeybourn, Webber, Ashley, Wheeler, Garton, Garment, Giblet, Wright, Forest, Hill, King, &c.

Mr. Garrard, the cattle modeller, was there, taking portraits of Mr. Webber's fine Devon-ox, and of Mr. Coke's South Down sheep.

It was an instruction to the Judges (Sir John Honeywood, Mr. Garston,

Mr. Wheeler, and Mr. Garment) that they are to consider the distance travelled by the fat oxen to the place of shew, and the oil-cake eaten; and to have particular regard in the sheep, to the quality of the carcases, aptitude to fatten, meat per acre of land, and quantity and quality of wool, for which purpose an experienced wool-stapler was to attend them when examining the sheep.

On Tuesday, in addition to the articles shewn on Monday, Mr. Bridge shewed samples of Mr. Patterfon's improved Poland oat, of his remarkably fine oat, called the potatoe oat; also of a white tare, that is coming into use.—Mr. Plowman exhibited the model of a portable fold for sheep, in which, by means of small wheels, a whole side can be moved, or even the whole fold shoved upon fresh ground, daily, without taking it to pieces; it was stated, that Mr. Plowman, of Broom, in Suffolk, has had the fold, from which the model was taken, for more than two years in use; it appears also, that a slight alteration in the construction of this useful fold, and making it stronger and heavier, would enable the farmer to pen hogs upon his clover, tares, or other green crops, which is a great *desideratum* in agriculture. The carcases of eight very fine sheep were exhibited, viz. the Duke of Bedford's South Down wethers, weighing 94 lb. besides 16½ lb. of loose fat; Mr. Coke's Leicester ewe 141 lb. fat 11½ lb.; Mr. Coke's South Down 162 lb. fat 19½ lb.; its fellow out of the same pen 132 lb. fat 22 lb.; Sir Thomas Carr's South Down 76 lb. fat 12½ lb.; its fellow 94 lb. fat 11½ lb.; Mr. H. King, jun.'s South Down 74 lb. fat 7½ lb.; its fellow 74 lb. fat 10½ lb.—Mr. Garrard, the modeller, took a portrait of Mr. Wakefield's fine Suffolk stallion; and Mr. Mayburg, a painter, of two of Lord Somerville's oxen.

Soon after four o'clock, the Duke of Bedford, Lord Somerville, Lord William Russell, and a number of other distinguished persons, left the yard, and soon after five o'clock the exhibition closed, and most of the cattle, &c. were removed in the evening; and none remained longer than the following evening, as was erroneously expected.

About six o'clock, near 250 persons sat down to a most elegant dinner, provided by the liberality of Lord Somerville, at Freemasons' Tavern, which, with the wines, did great credit to the host. Lord Somerville was in the Chair, supported by the Duke of Bedford, Earl Darnley, Earl of Macclesfield, Lord Sackville, and a most numerous circle of the nobility and gentry, who patronise and practise Agriculture. As soon as the cloth was withdrawn, his Lordship gave,

"The King, long life to him, and thanks for the honour he has always done us, in sending cattle to our show."

Which was drank with the most enthusiastic applause.

The nine elegant silver cups intended to be presented, were then placed upon the table before his Lordship; who gave,

"The Queen and Royal Family."

"The Judges of the Show; and thanks to them for their great attention."

His Lordship next gave,

"The memory of those who have been distinguished for their improved husbandry—Mr. Bakewell, Mr. Duckett, and the late Duke of Bedford."

Next followed, "The Farming Societies of Scotland and Ireland."

"The Earl of Egremont."—"The Plough."

His Lordship then gave the health of "Mr. Coke;" and pathetically lamented the absence of that distinguished agriculturist, on account of the death of a near relative. His Lordship then entered on the more immediate business of the evening, by stating, that it was his intention to continue the show and premiums as heretofore, with some few alterations, expressed in the bills then circulating by his servant in the room, which, as they consist only in the mention of two Pieces of Plate, value thirty and twenty pounds, instead of those sums, for the first and second best pen of oxen; and of two Pieces of Plate, value thirty and twenty pounds, for the first and second

best pair of five sheep, instead of money; and in allowing, at the next show, the admission of oxen which have had corn; "on account of the exceeding drought of the year 1803, as occasional exceptions to any rule, on just grounds, must be deemed equally salutary with the rule itself." We need not, therefore, repeat the conditions of the next show, which is to take place at Langhorn's on Monday and Tuesday, the 5th and 6th of March, 1805.

His Lordship then proceeded to read the award of the Judges, and calling up Mr. H. King, jun. stated to him that the first prize was adjudged to his South Down oxen, which had been worked by himself (Lord Somerville) and desiring him to make his election, either of 15l. in money as feeder, or of the third or fourth cup, standing before him: he preferred a cup, and bore it off to his seat amidst the plaudits of the company.

Mr. Webber was next called up, and informed that the second prize was adjudged to his two Devon oxen, and he immediately chose a cup instead of its value in money.

Mr. Hudson was also presented with a cup (not assigned him by the Judges) for having shewn a very superior ox. The partner having fallen ill, he was deprived of the prize for the pair.

Mr. Lawman was assigned the next prize cup, for the third best shew of oxen.

Mr. Coke was adjudged a silver cup, for five stag ewes.

Sir Thomas Carr received also a large cup, for the second prize of five wethers.

Mr. Duckett received a small silver cup, for the best sow pig.

Mr. Frost received a small cup, on the part of his Majesty (not assigned by the Judges) for having exhibited a pair of excellent oxen.

Mr. Bridge obtained a cup, for his Dorset ewe hogs.

Lord Somerville here took occasion to propose a prize of three guineas to be given to the shepherd who should rear, within a given period, the greatest number of lambs in proportion to the ewes, as it would operate as a reward for the fidelity and attention of the shepherd.

A prize of two guineas was also proposed to the shepherd who reared the next greatest number. The Duke of Bedford's shepherd was desired to make this communication known to the rest of the shepherds.

The healths of the Chairman, the Duke of Bedford, Mr. A. Young, and several Gentlemen, eminent for their agricultural pursuits, were then drank.

Among the company present were, the Duke of Bedford, Earl of Macclesfield, Lords Wm. Ruffel, Romney, Darnley, Sondes, Newark, and Sackville; Sir W. Geary, Mr. Foster, Hon. G. Villiers, Gen. Harcourt, Mr. Byng, and Mr. A. Young.

The truly munificent conduct of Lord Somerville cannot but demand the warmest praise. His Lordship disburses from his private purse those premiums, which operate as an incitement to the breeding and feeding of cattle, on a system which has not vain ostentation, but public utility, for its object. Such efforts, so laudably exerted, will, we trust, not prove in vain.

The following instance of extraordinary increase from a Cow, the property of Mr. Geo. Young, on a Farm of Miss Sloper's, near West Auckland, in the county of Durham, may be depended on as perfectly correct.—At eight births she has produced fourteen calves, viz. four single ones, twice twins, and twice three: the whole number were fine healthy calves; eleven of them have been reared, the mother is doing well,—and one, at least, of her daughters promises to follow her prolific example. On the 13th of March, 1804, the Cow was only ten years old.

## PARTICULARS.

At 3 years old, she had

1 Calf

— 4 —————

1

— 5 —————

2

— 6 —————

2

— 7 —————

2

— 8 —————

3

— 9 —————

1

— 10 —————

3 February 1804

14

## Essex Agricultural Society.

At a special Meeting of this Society, convened by the authority of the President, the Right Hon. Lord Braybrooke, and held at the Shire Hall, at Chelmsford, on Saturday the 25th February, 1804, for the purpose of taking into consideration the effect of the high Duties on Barley, the present operation of the Corn Act of the 31st of his Majesty, and other matters relative thereto;

CHARLES C. WESTERN, Esq. in the Chair,

It was resolved,

That the late returns of Mark-lane and other Markets, exhibit an average price of the several sorts of grain, which, considering the *increased wages of labour, tradesmen's bills, public and parochial taxes, rents, and tithes*, will not afford to the grower the expence of cultivation, and interest for his capital employed.

Resolved, That although the abundant harvests of the two last years obviously present sufficient reason for the reduction of the price of all grain to a moderate and desirable rate, yet the excessive depression of the markets has arisen from other causes, which it is hoped the legislature will, upon proper application, in its wisdom, remove, as well from regard to the interests of the community at large, as to those of the land proprietor and occupier.

Resolved, That the heavy duties upon Malt and Beer, which have been recently imposed, have materially contributed to the excessive reduction of the price of Barley.

Resolved, That the advantage which the Irish distillers enjoy, from diminished duties allowed in certain cases, (now become almost general) and the consequent importation of raw-spirits from Ireland, for the use of the English rectifying distiller, has to an infinite degree reduced the demand of the English Malt Distiller, for malt; the growth of this country, and proportionably diminished the price of barley.

Resolved, That the export and import prices of the Corn Act of the 31st of his Majesty, compared with the increased expences of cultivation since that period, are evidently unsuited to the present times, and require to be revised and altered. The Society does not venture to offer its opinion upon the great question of *free* export and import, but presuming the same system of *regulated* export and import to be continued, it is decidedly of opinion the same rates cannot now apply.

Resolved, That it appears upon authentic documents, that, antecedent to the year 1765, the balance of Exports and Imports was considerably in favour of this country, and afford a very profitable trade. That soon after that time, and particularly since the period of the Act of the 17th of his Majesty, up to the present moment, the exportation trade was lost, and the balance on the average has been very materially against this kingdom.

Resolved, That in order to prevent the return of scarcity in future years, and to promote effectually the permanent interests of the community, it is necessary to direct the national efforts to the acquisition again of a surplus produce and an export trade; and that this can alone be done by securing to



the grower, in *all* cases, an *adequate* price for *such* surplus produce, calculating the expences of cultivation and fair interest of capital.

Resolved, That all bounties upon *importation* are highly prejudicial, as tending only to encourage the growth of corn in other countries, at the charge of the revenue, and discouragement of the Agriculture of this kingdom.

Resolved, That this Society do recommend, and will promote to the utmost of its power, an immediate application to the legislature, of the land-owners and occupiers of this county, founded upon the principles, and directed to the objects of the foregoing resolutions.

Resolved, That copies of these Resolutions be transmitted to the Board of Agriculture, and the different Agricultural Societies throughout England.

(Signed)

CHARLES C. WESTERN, Chairman.

Resolved, that the thanks of the meeting be given to Charles C. Western, Esq. for his attention and able conduct in the chair.

*Shire-Hall, Chelmsford, Feb. 1804.*

It was further resolved, That Twenty guineas, presented to the Society by Charles Callis Western, Esq. to be applied to the encouragement of industrious labourers, be given to ploughmen and boys, upon matches or trials of skill in ploughing, in four divisions of the county, as under, and according to the direction of the gentlemen here mentioned:

Division of Coggeshall and neighbourhood—Filman Honeywood, Esq.

Division of Malden and neighbourhood—Thomas Lee, Esq.

Division of Harlow and neighbourhood, Montague Burgoyne, Esq.

Division of Chelmsford and neighbourhood, Mr. Maion, of Crondorck Park.

That an auctioneer be engaged to attend at the annual show of stock, at Chelmsford, on Friday the 25th of May next, for the purpose of selling such stock as gentlemen may think proper to send, whether for prize exhibition or for sale only; also for the letting of tups, or other stock that may be brought there for that purpose.

(Signed)

CHARLES CALLIS WESTERN, Chairman.

*Shire-Hall, Chelmsford, Feb. 25, 1804.*

N. B. Notice of Stock intended to be sold at the show, must be sent in due time to Mr. Goulding, at Chelmsford, that the revenue officer may be apprised thereof.

### Norfolk Agricultural Society.

A General Meeting of this Society was held at Lynn, on Wednesday, the 22nd of February, 1804, at which were present—

Thos. Wm. Coke, Esq. President

Sir Richard Budingford, Bart.

H. Styleman, Esq.

A. Hammond, Esq.

Governor Bentinck

M. F. Rithton, Esq.

W. Hozte, Esq.

E. Rolfe, Esq.

Rev. A. Wodehouse

Dr. Marshall

Mr. Dufgate

Mr. T. Holland

Mr. E. Holland

Mr. H. Blyth

Mr. Godfrey

Mr. Buhor

Mr. Purdy

Mr. Purdy, jun.

Mr. Horfeley

Mr. A. Beck

Mr. Carr

Rev. T. Wheathearhead

Mr. Bolwell

Mr. W. M. Hill

Mr. Money

Mr. Seppings

T. Bagge, Esq. Treasurer

Rev. St. J. Priest, Secretary

Twenty guineas were ordered to be paid by the Treasurer, towards carrying on the Petition to Parliament, from the land-owners, barley-growers, and maltsters of this county.

New premiums were offered for sheep, to be shewn at Swaffham, on the anniversary, viz. for single shearling rams, and pens of shearling ewes,

consisting of three each of the three breeds. Premiums were offered also for the best fleeces of wool, of the two breeds: for the best boar and sow, not more than three years old: for the best bull, three years old: for the best cow, not more than four years old: and for the best heifer, two years old.

The premiums for shepherds are the same as last year, with the following regulations:—That the number of ewes put to tup must be certified, as well as the number of ewes and lambs which a claimant has, any day within a fortnight, before the meeting of the Committee, previous to the anniversary, and every claimant must apply to the Secretary for the form of a certificate.

All these premiums were ordered to be advertised in the four county papers, to appear in the month of March, or April.

The following premiums were adjudged:—

A piece of plate, of ten guineas value, to S. Bevan, Esq. of Riddlesworth, for converting unimproved meadows into water-meadows, in the year 1803. Four pens of South Down shearling wethers, consisting of ten each, one pen of Leicester shearlings, and one of Norfolk shearlings, were shewn for the prizes.

The first prize, a piece of plate, of seven guineas value, and one guinea to his shepherd, was adjudged to Mr. Purdy of Egmore.

The second prize, a piece of plate of five guineas value, and one guinea to his shepherd, to T. W. Coke, Esq.

The pen of Leicesters belonging to Mr. Purdy, of Egmore, and being without competition, gained the prize of a piece of plate of five guineas value, and one guinea for his shepherd.

The pen of Norfolks belonged to Mr. Harpley, of Norton, and gained the prize of a piece of plate of five guineas, and one guinea for his shepherd.

The best of the South Downs and Leicesters were slaughtered immediately after the shew, and the best of the Norfolks at their own home.—Their weight was as follows:—

<i>Mr. Purdy's South Down</i>		<i>Mr. Purdy's Leicester.</i>		<i>Mr. Harpley's Norfolk</i>	
	β. lb.		β. lb.		β. lb.
Blood	6	Blood	5½	Blood	9
Skin	15½	Skin	17½	Skin	14½
Entrials	7	Entrials	8	Entrials	18
Head and Pluck	8½	Head and Pluck	8½	Head and Pluck	11½
Fat	18	Fat	15	Fat	16
Mutton	8 2	Mutton	7 7½	Mutton	7 9

The South Down and Leicester were then sold to Mr. Smith, a butcher at Lynn, estimating the former at 8lb. per quarter, and the latter at 26lb. per quarter, for 7d. per lb. for the mutton, and an halfpenny per lb. for the offal.

—Hence the

Price of the shearling South Down was	£. s. d.
Ditto' Leicester	3 : 10 : 0
Ditto Norfolk	3 : 5 : 0
	3 : 6 : 0

The general opinion was, that of the Leicesters and South Downs, before they were slaughtered, the Leicesters weighed the most.

Mr. Beecher, of Docking, exhibited a shearling wether, from a Wiltshire ewe, by a Leicester tup, which was deemed a very useful marsh-sheep; he is to be shewn again this time twelvemonth, when it is supposed he will weigh 36lb. per quarter.

Mr Beecher also produced a white home-bred ox, four years old, which was thought worthy of notice.

Mr. Skippon exhibited a red home-bred bullock, which was esteemed an excellent and useful beast.

The thanks of the Society were given to Mr. Beecher and Mr. Skippon, for shewing the above.

The following gentlemen were elected members of this Society:—

Richard Johnson, Esq. of Swaffham.

Mr. William Lobbcock, of Lammes  
 Mr. Thomas Rackham, of Ripon-Hall  
 Mr. Samuel Bircham, Reepham  
 Mr. Baker Rackham, of Brandon  
 Mr. Bucks, of Worlington  
 Mr. Bolwell, Veterinary Surgeon, of Swaffham.

**ORDERED,**

That the next meeting of the Committee shall be held at East Dereham, for the purpose of paying the premiums adjudged, and of auditing the accounts; that the meeting of the Committee, previous to the anniversary, shall be held at Fakenham, on Wednesday the 6th of June; that both of these meetings shall be advertised, and the names of the members who compose the Committee, be inserted.

ST. JOHN PRIEST, Secretary.

*Hereford Agricultural Society.*

The exhibition of bulls, on Monday March 19, far exceeded in quality and number those shewn on any similar occasion. The successful candidates for the premiums were Mr. Barnett, of Ledbury, T. A. Knight, Esq. Mr. Samuel Tully, Mr. Joseph Tully, and Mr. Weaver, of Bunhill. A fat pig, the property of Mr. Hewer, of Abergavenny, was much and deservedly admired.—A silver cup, of the value of twenty-five guineas, was voted to Mr. Berrington, of Buttas-Green, near Leominster, in approbation of his professional skill and services, as a Veterinary surgeon.

*Lincolnshire Division of Lindsey.—Agricultural Society.*

The Right Hon. Lord YARBOROUGH, President.

GEORGE THOMAS HENEAGE, Esq. and } Vice-Presidents.  
 JOSEPH LIVESSEY, Esq. }

At a meeting of the Committee appointed by this Society, the following premiums were ordered to be offered for Stock bred within the said division, and to be shewn at the Talbot Inn, in Caistor, in the County of Lincoln, on Friday the 15th day of June, 1804, at 11 o'clock in the forenoon.

	£.	s.	d.		£.	s.	d.
For the best ram-hog	5	0	0	For the best aged bull	5	5	0
Second best ditto	2	2	0	Second best ditto	2	2	0
For the best shearling-ram	5	5	0	For the best heifer, not exceeding two years and a quarter old when shewn	5	5	0
Second best ditto	2	2	0	Second best ditto	2	2	0
For the best aged ram	5	5	0	For the best boar	1	1	0
For the best six ewe-hogs	5	5	0	For the best gilt, not exceeding nine months old when shewn	1	1	0
For the best bull, not exceeding two years old when shewn	5	5	0				
Second best ditto	2	2	0				

*Note.*—The sheep are to be shewn in their wool, and immediately afterwards shorn and shewn. And the owner of the aged bull not to receive the premium two years together for the same beast, unless the judges shall determine the contrary.

Also ordered by the Committee, That a premium of Ten Guineas be given for the best bull (not bred within the said Division, but to be the property of a subscriber) from any part of England, to be allowed by the judges to be superior to any bull shewn for the premiums, and with a restriction that he shall remain, and be used twelve months in the said division; but if shewn two years together, it shall be left to the judges to allow the premium or not, as settled respecting the aged bull.

And that a premium of Ten Guineas be given for the best black stallion, from any part of England, but to be the property of a subscriber, and with a restriction that he shall remain and be used in the said Division, the present season: and if only one shewn, the judges are to determine whether the owner of such horse shall be entitled to the premium or not.

These premiums will be decided at the meeting, and certificates of the age required.

No stock to be entitled to the premiums, without full proof of its being bred in the said division, except as to the premiums of ten guineas for the horse and bull. No person to be entitled to a premium without first becoming a subscriber. If only one of a sort of stock be shewn (where more is required) the judges shall give such premium as they think proper, not exceeding those allowed by the Committee.

The stock not confined, to be kept on vegetable food only, a declaration will be required at the time of shewing, in what manner the same have been kept: and persons intending to become candidates, are desired to give 14 day's notice to the Secretary.

The male stock to be shewn, are intended to be let or sold for the use of the county, at such prices only as may be agreed upon between the owners and persons wishing to become purchasers.

#### COMMITTEE.

Philip Shipworth  
William Thorpe  
Woodthorpe Johnson

John Dudding Pantom  
John Waleby.

The following premiums, offered at the meeting of the 24th of August, 1803, have been adjudged by the Committee:

To William Sleight, of Tealby, for bringing up the most numerous family without parochial assistance.

To John Clarke, of Market Raslin, labourer in husbandry, the longest time on one farm.

To John Turford, of Barkwitt, servant in husbandry, the longest time with one master.

N. B. The persons entitled to the last mentioned premiums, may receive the same on application to,

Barton upon Humber, Feb. 28, 1804.

THOS. MORRIS, Secretary.

#### York Agricultural Society.

At an half-yearly meeting of this Society, held at the York-Tavern, the 22nd of March 1804,—Hall Plumer, Esq. Vice President, in the chair; H. J. Baines, Esq. Vice President, Deputy Chairman, the following gentlemen were appointed judges, viz. Thomas Kendal, Esq. of Nefs; Mr. Thomas Kendal of Fulford; and Mr. Richard Scott, of Coxwold, who adjudged the premium for stock as under:—

	£.	s.	d.
Mr. Wilkinfon, of Owiton, for the best three years old, or aged bull	5	5	0
Mr. Rob. Wood, of Martin Lordship, for the second best ditto	3	3	0
Mr. Nicholson, of Gibton, for the best two years old bull	5	5	0
Mr. William Wharram, for the second best ditto	3	3	0
Mr. John Bulmer, of Hutton Ambo, for the best year old bull	5	5	0
Mr. John Dunnington, of Thorganby, for the second best ditto	3	3	0
Mr. Rob. Wood, of Marton Lordship, for the best stallion for getting hunters	5	5	0
Mr. Rob. Wood, for the best stallion for getting coach-horses	5	5	0
Mr. Thomas West, of Eddlethorpe, near Malton, for the best stallion for getting road-horses	5	5	0
Mr. William Thompson, of Riccall, for the best stallion for getting cart-horses	5	5	0

There was no competition for the hunter and cart-horse premiums, but the Judges thought Mr. R. Wood, and Mr. W. Thompson entitled to the premiums.

The premium of £2. 2s. for the best crop of spring tares, was adjudged to Mr. John Hartley, of Tadcaster; and the thanks of the Society were voted to him for his obliging communication on the culture thereof.

The following gentlemen were appointed officers, and a Committee for the

Ag. Mag. Vol. 10.

G g

year ensuing:—Sir W. M. Milner, Bart. M. P. President; H. M. M. Vivasfour, and B. Agar Esq.s, Vice-Presidents; Thomas Hartley, Esq. Treasurer; Mr. D. Tuke, Secretary.

COMMITTEE.—Mr. G. Addirrell, Tadcaster; H. J. Baines, Esq. Mr. T. Armstrong, Spring-House; C. Crompton, Esq. Nun-Monkton; Mr. M. Crofs, Langton; Mr. G. Hardwicke, Burton-House; T. Hartley Esq. York; Mr. J. Hartley, Tadcaster; Mr. Hassel; H. Plumer, Esq. Bilton; Mr. T. Kendal, Fulford; Mr. W. Laycock, Appleton; Mr. T. Laycock, ditto; Mr. J. Milner, Bishopthorpe; Rev. Mr. Read, Sand-Hurton; Mr. Rochiffe, Easingwold; J. Tweedy, Esq. York; Mr. J. Tuke, York; T. Kendal, Esq. Nefs; S. Croft, Esq. Stillington; Mr. Dowket, Salton.

The silver medal of this Society was voted to Mr. J. Tuke, for his services as Secretary.

The Committee are desired to meet at the York-Tavern, on Thursday, 5th day of April next.

*Additional Subscriptions received.*

	£.	s.	d.		£.	s.	d.
H. M. M. Vivasfour, Esq.	1	1	0	Mr. T. Hodgson, Harley			
Mr. Nicholson, Gibton	1	1	0	(addition)	0	10	6
Mr. M. Wilkinson, Owton	0	10	6	Mr. J. Cartwright, York	0	10	6
Mr. Wharram, Overton	0	10	6				

*Low Price of Corn.*

At a meeting convened for the purpose of taking into consideration the low price of corn, and held, pursuant to advertisement, at the Rein Deer inn, in the city of Lincoln, on Friday, the 24th day of February last, John Harrison, Esq. M. P. in the chair; it was, amongst other things,

Resolved, That a Petition (a copy whereof, is here-upon written) should be presented to the Honourable the House of Commons.

“To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

“The humble Petition of the Land-Owners, Barley-Growers, and others interested in the growth of corn, of the county of Lincoln, whose names are hereunto subscribed—

Sheweth, That your Petitioners have seen, with a considerable degree of alarm, the Price of Barley for some time past greatly decreasing, with an increasing difficulty in the sale of it, even at a price below what will repay them the expences they are at in the growth of it, and at the very increased price of labour and the heavy charges of taxes and parochial rates, and apprehend, that unless some means are adopted by the Legislature to render the sale more easy, with some advance in the price, that they will be obliged to change the system of cropping their land, which they have pursued with much advantage to themselves and the public for many years past.

Your Petitioners humbly represent to this Honourable House, that they apprehend the great and rapid decrease in the price, and dullness in the sale of barley is in some measure owing to the late new and heavy duty on malt, which has reduced the consumption amongst the farmers and middling class of housekeepers, and has also made a considerable number of persons with small capitals, who used to follow the business of maltsters, entirely relinquish the trade, from their capital not being sufficient to enable them to advance the present high duty on the quantity of malt sufficient to supply their customers till the time of malting after the next harvest, which has taken a great number of buyers out of the market, yet has destroyed that competition which used greatly to facilitate the sale, and contribute to keep the price at a fair standard betwixt the grower and the consumer; which circumstances, together with the decrease in the demand for the consumption of the malt-distillers, occasioned, as your Petitioners conceive, by the importation of raw spirits at a price below what the English malt-distillers can, under the high existing duties, afford to sell them to the refiners; and their being shut

out from any foreign market, by the high duty upon British spirits, has together so much reduced the consumption of barley and malt, that unless measures are adopted by the Legislature to quicken the sale and increase the demand, by allowing a drawback on the exportation of British Spirits, to induce the English malt-distillers to consume a greater quantity of barley, your petitioners apprehend that there will be a considerable quantity of the last year's crop left unsaleable upon the hands of the grower; a circumstance which must operate very strongly in reducing the quantity of corn grown in future years.

Your Petitioners beg leave further to observe, that from the great change the corn-trade has undergone within these last ten years, the act passed in the 31st of his present Majesty, for the regulation of the export and import of corn, is wholly inadequate to the purpose intended by the Legislature, and in many instances operates very strongly to reduce the price of all sorts of corn, much below what they can be afforded at under the existing circumstances, and consequently to discourage the growth of corn in this country.

"Your Petitioners, therefore, humbly pray, that this Honourable House will take the above matters into their early and most serious consideration, and by a revision of the corn laws, and by regulations in the revenue laws, respecting the malt and malt-distillers, adopt such measures as may appear to the wisdom of the House, the best calculated to encourage the growth of corn in this kingdom, as the best means of preventing the return of those heavy losses by bounties, and the purchase of foreign corn, which the nation sustained in the last deficiency in the growth of corn, for the supply of the home consumption of the county. And your Petitioners will for ever pray, &c. &c."

Which petition now lies for signature, at the Rein Deer inn, aforesaid.—Copies are also forwarded to Gainsborough, Brigg, Grimsley, Barton, Caistor, Raisin, Louth, Horncastle, Alford, Sleaford, Grantham, Stamford, and Boston.

Lincoln, 2nd March, 1804.

### Malt Duties.

At a meeting of the land-owners, land-occupiers, and maltsters, of the county of Essex, convened for the purpose of taking into consideration a petition to Parliament, on the subject of the high duties on malt, the inequality of duties on the English and Irish distiller, the present operation of the corn-act of the 31st of his present Majesty, and other matters relative thereto, held at the Black-boy inn, at Chelmsford, on Friday, the 9th of March, the Right Hon. Lord Braybrooke, the lord lieutenant of the county, in the chair; the following petition was moved by Charles C. Western, Esq.

"To the honourable the House of Commons, of the united kingdoms of Great Britain and Ireland, in Parliament assembled.

"The humble PETITIONS of the land owners, land-occupiers, and maltsters, of the county of Essex.

"SHEWETH,

"That your Petitioners, the land-owners, land-occupiers, and maltsters, of the county of Essex, have seen with great anxiety and concern, that the present operation, of the corn-laws, combined with certain other causes, to which they humbly entreat the attention of this honourable House, is likely to affect materially the agriculture of this kingdom, and has already occasioned to your Petitioners very considerable injury.

"Your Petitioners venture to declare their opinion, that the provisions of the last corn-act, of the 31st of his Majesty's reign, are wholly unsuited to the present times; that referring to the export and import prices of that act, and calculating the expence of cultivation at that period, compared with the present, it will evidently appear that the rates thus established cannot now by any means apply; they therefore most humbly hope that the same may be revised and altered.

"Your Petitioners also apprehend, that the late very heavy additional duties on malt and beer, have in a great measure decreased the consumption

of barley, and thereby materially contributed to the extreme reduction of the price thereof.

"Your Petitioners also find that the advantage which the Irish distillers enjoy, from continued bounties allowed in certain cases, and the consequent importation of raw spirits from Ireland, has greatly reduced the demand of the English distiller for malt, and proportionably diminished the price of barley.

"Your Petitioners also understand that a reduction of the duties imposed during the last sessions, upon malt and beer, has been allowed on malt made from barley grown in Scotland, to the disadvantage and injury of the barley-growers, maltsters and distillers of this part of the kingdom.

"Your Petitioners, therefore, most humbly pray, that this honourable House will take the above matters into its early consideration, and particularly that the corn-act, of the 31st of his present Majesty, may be revised and altered and such a system of permanent laws established, as shall afford protection and encouragement to the agriculture and cultivation of this kingdom, and otherwise to grant such relief as this honourable House shall in its wisdom judge fit and expedient.

"And your Petitioners, as in duty bound, will ever pray, &c. &c."

Upon the question being put by the chair, that the meeting do approve the said petition, it was carried unanimously.

It was further resolved that the county members be requested to present it as soon as signed.—The thanks of the meeting were voted to Lord Braybrooke upon his leaving the chair, which was then taken by John Strutt, Esq. and several other resolutions were agreed to.—A Committee was appointed to co-operate with gentlemen that may be deputed from other counties, and a subscription was entered into, for the purpose of defraying any expence that may be incurred.—The Petition was signed by a number of noblemen and gentlemen, and it is expected the number of signatures will be beyond example.

A Suffex ox, bred by Mr. Vaux, of Shipley, and fatted by Mr. W. Carter, of Beeding, was on Monday, March 12, slaughtered by Mr. Myrtle, butcher, West-street, Brighton, the carcase of which weighed 160 stone, and out of which, no less than 33 stone 2 pounds of loose fat was taken by the butcher. The above animal was esteemed by judges who saw him, one of the completest in point of cutting and proof, ever exhibited in any market.

Tuesday, March the 27th, a full Board of Agriculture, was held in Sackville-street, when Lord Sheffield was re-elected President, and Arthur Young, Esq. Secretary.—George Smith, Esq. was at the same time elected Treasurer to the Board. Afterwards the following noblemen and gentlemen were elected ordinary members, in the room of the five members who go out by annual rotation: viz. the Earl of Suffolk, the Bishop of Llandaff, Edward Loveden, Esq. M. P. Thomas William Coke, Esq. M. P. and Thomas Tyrwhitt, Esq. M. P. and Richard Brinsley Sheridan, Esq. has been unanimously elected an honorary member.

The Petition of the land owners, and occupiers, &c. of the County of Essex, praying for a revision of the Corn Laws which passed in the 31st of the King, as inapplicable to the present interests of the grower or consumer of corn, will be presented to parliament immediately after the recess.—Several of the neighbouring counties have convened meetings to adopt this necessary measure.

Shrewsbury Fair. On Saturday, March 24, the sale of cattle, sheep, and pigs was heavy, and prices low. Good hories sold well. Cheese from 58s to 68s per cwt.

Rofs Fair. On Thursday, March 15, there was a very fine shew of cattle; and many reputable graziers being present, the sale was brisk, and good prices were given. The shew of hories and sheep was small, and the sale dull. Best cheese sold from 70s to 78s per cwt.

LONDON PRICES OF GRAIN for *March, 1804.*MARK-LANE, *Monday, March 5.*

OUR arrivals of Wheat have not been great for this day's Market, and the fine, of which we have but few samples, are dearer, say 1s. per quarter; the bulk of the inferior sorts remain heavy, and at last week's quotation. Barley is 1s. per quarter higher, and Malt continues steady, but at no advance. Tick Beans (having a plenty) are something cheaper; but in the other sorts, and Pease, we have no alteration to note. The supply of Oats not being large, and the demand considerable, they are 1s. per quarter dearer.

*Price of Grain, on board Ship, as under.*

Wheat	28s to 53s	Malt	48s to 55s od	Grey Peas	27s to 30s od
Fine	54s to 56s od	Oats	18s to 22s	Small Beans	25s to 31s
Rye	28s to 32s	Polands ditto	23s to 24s 6d	Old ditto	27s 31s
Barley	18s to 23s 6d	White Peas	27s to 34s od	Ticks	21s to 25

*Monday, March 12.*

Fine Wheats were in considerable request this morning, and the supply being small, they were 1s. per quarter dearer than last Monday. The general bulk, likewise obtained rather better prices, but there was not an equal degree of briskness in the sales. Barley and Malt were both a short supply, but not dearer. Beans and Pease of the different kinds are something higher, as are Oats; the latter, from an inconsiderable supply and large demand, have advanced 1s. per quarter since last week.

Wheat	30s to 45s	Malt	48s to 55s od	Pearls	os od
Fine	55s to 56s od	Oats	19s to 24s	Grey Peas	28s to 31s od
Rye	29s to 32s od	Polands ditto	25s to 26s od	Sm. Beans,	27s to 32s od
Barley	18s to 23s od	White Peas	27s to 35s od	Ticks,	32s to 35s od

*Monday, March 19.*

We had plentiful supplies of Wheat, from Kent, Essex, and Suffolk, for this day's Market. Fine Samples (as of late) sold freely at last Monday's prices; but not so the ordinary sorts, which went off heavily, and were something cheaper. We had likewise many arrivals of Barley, which also felt a small depression in price. Horse and Tick Beans are cheaper, particularly the latter, of which we have a great supply. Pease remain without much variation; but Oats, of which we have large arrivals, both coastways and foreign, are 1s. per quarter cheaper.

Wheat	28s to 54s	Malt	49s to 55s od	Grey Peas	29s to 32s 6d
Fine	55s to 57s od	Oats	18s to 22s	Beans, new	27s to 32s od
Rye	28s to 31s od	Polands ditto	23s to 24s 6d	Ticks	23s to 28s od
Barley	18s to 23s od	White Peas	30s to 35s od		

*Monday, March 26.*

The supply of Wheat for this day's market is but small, and the sales of prime samples very brisk; the other sorts still, however, want buyers and better prices. Good Malting Barleys and fine Malt obtain something more than last week. White Pease are cheaper; but Grey Pease, with Horse and Tick Beans, remain nearly at par with last quotation. Oats are 1s. per quarter dearer, owing to a short supply.

Wheat	27s to 55s	Malt	50s to 56s od	White Peas	30s to 35s od
Fine	55s to 57s od	Oats	18s to 23s	Grey Peas	27s to 31s od
Rye	28s to 31s	Polands	24s to 25s 6d	Beans, new	27s to 33s od
Barley	19s to 24s 6d			Ticks, new	24s to 30s od



*Announced between the 20th of February, and the 20th of March, 1864.*

## BANKRUPTCIES.

*The Solicitors' Names are between Parentheses.*

**ALDERSON**, Christopher, Beebles, grocer. (E. and T. A. Dawes, Angel court, Throgmorton street.  
**Allan**, John, sen. Jewry street, victualler. (Lewis, New Square, Minorities.  
**Beetham**, W. S. Farnival's inn court, printer. (Beetham, 6, Courtyer street.  
**Bull**, Thomas, Broad street, Bristol, brandy merchant. (Blanford and Sweet, Inner Temple.  
**Brack**, Amias, Aldermanbury, varchouemas. (Hurd, King's bench walk, Temple.  
**Brack**, John, Worthington, wine merchant. (Bacon, Southampton street, Loyent Garden.  
**Bulgist**, William, Bristol, printer and bookseller. (Shawe, New Bridge street, Blackfriars.  
**Black**, George, and Alexander Stephen, Bush lane, dealers in coals. (Harman, Wine-office court, Fleet street.  
**Berry**, William, Oakham, apothecary. (Rigge and Merrifield, Carey street.  
**Blowers**, John, Halfpenny, shopkeeper. (Tarrant and Moulie, Chancery lane.  
**Battinson**, Richard, and Samuel Wade, Manchester, merchants. (J. and B. Willis, Wernford court.  
**Bury**, William, Jun. Pitton, clothier. (Luxmoore, Red Lion square.  
**Crooke**, James, Colne, cotton manufacturer. (Ellis, Curfitor street.  
**Collins**, Thomas, Crediton, serge maker. (Darke, Princes street, Bedford row.  
**Davis**, Benjamin, Chatham, money scrivener. (Fowell, Ellick street, Strand.  
**Dunkin**, John, Reufo's street, refisher. (Martin, Vintner's hall.  
**Edwards**, William, New Bond street, goldsmith and jeweller. (Nelson, Maddox street.  
**Etches**, James, Darent, mercer, trading in the firm of Etches and Poole. (Wainwright, Mare court, Temple.  
**Englis**, Sarah, Charing cross, hatter. (Hogden, Charles street, St. James's.  
**Evans**, Henry, Calne, clothier. (Sandys, Horton, and Trevenen, Crane court, Fleet street.  
**Fell**, Joseph, Whitby, ropemaker. (Roller, Kirby street, Hatton garden.  
**Faßbury**, Thomas, Bishopgate street within, pewterer. (Jones, Lord Mayor's Court office, Royal Exchange.  
**Godfrey**, Daniel, Moorfields, broker. (Chester, Melina place, Westminster road.  
**Hefeth**, George, Galfeld, Manchester, grocer. (J. C. and C. Jackson, Walbrook.  
**Hindley**, Thomas, and Samuel Cooling, Manchester, calico manufacturers. (Hewitt, Manchester.  
**Hunt**, Walter, Putney, grocer. (Luckett, Basinghall street.  
**Hopwoods**, Thomas, Rochdale, plumber. (Batty, Chancery lane.  
**Hayuta**, Thomas, Oundle, nursery and feedman. (Kinsterley, Long, and Luce, Symond's inn.  
**Johnson**, Thomas, Leicester, carpenter. (Taylor, Southampton buildings.  
**Jenkinson**, Richard, Pocklington, money scrivener. (Croft and Moore, Minbury street, Strand.  
**Kingbury**, Daniel, Exeter, factor. (Flemman, Ely place.  
**Knight**, William, Tunbridge Wells, banker. (Blanford and Sweet, King's Bench walk, Temple.  
**Leeming**, Thomas, of Preston, John Myres of Cleekehead, and William Chapman, of Preston, warbed manufacturers. (Evans, Chavies inn.  
**Lloyd**, Thomas, Billiter square, merchant. (Kayll, Tower royal.  
**Liptrap**, John, and Samuel D. Liptrap, Whitechapel, distillers. (Druce, Billiter square.  
**Leonard**, Charles, Wen Broomwich, ironmaster. (Eserton, Gray's Inn square.  
**Lawton**, William, and William Byron, Lincoln, drapers. (Black, Racquet court, Fleet street.  
**Lawton**, James, Diabrois in Saddleworth, shopkeeper. (Batty, Chancery lane.  
**Martin**, Thomas, Birmingham, and Thomas Nicholas, trading at Birmingham in the firm of Martin and Co. and at Stone, in the firm of Nicholas and Co. (Constable, Symond's inn.  
**Martindale**, John, New Bond street, wine merchant. (Dewberry, Conduit street.  
**Mathews**, William, Long lane, Southwark, vellum and parchment maker. (Ruche, Nicholas lane, Lambard street.  
**McCabe**, Edward, Broad street, Bloomsbury, hat maker. (Fothergill and Savage, Old Broad street.  
**McNerghy**, Richard, Wethall, Whittington, grazier. (Hurd, King's Bench walk, Inner Temple.  
**Murray**, Samuel, Russell court, bookseller. (Cobb, Clement's inn.  
**M. Thomas**, Manchester, and Peter Lunn, of Eccles, calico manufacturers. (Ellis, Curfitor street.  
**North**, William, Dewbury, covered manufacturer. (Sykes and Knowles, Bowwell court.  
**P. A. Hare**, Bristol, cooper. (James, Gray's Inn square.  
**P. A. Hare**, John, Chippinham, clothier. (Sandys, Horton, and Trevenen, 57 Crane court, Fleet street.

**Prince**, William, Stockport, cotton spinner. (Edge, Inner Temple.  
**Powis**, Richard, Bradford, mow, veterinary surgeon. (Robinson, Charter house square.  
**Powditch**, George, Liverpool, miter mariner. (Atcheson, Austin friars.  
**Powell**, William, Broad street, St. Giles's, linen draper. (Swaine and Stevens, Old Jewry.  
**Port**, Lawrence, Bristol, cutler. (James, Gray's Inn square.  
**Rutt**, Thomas, Dalton, rock broker. (Walton, Girdler's hall, Basinghall street.  
**Read**, Amias, Aldermanbury, warehouseman. (Ward, King's Bench walk, Temple.  
**Rawlings**, Thomas, Gloucester, mowyer. (James, Gray's Inn square.  
**Richardson**, Sylvester, Blackburn, grocer. (Clarke and Richards.  
**Riley**, Samuel, Soyland, cotton spinner. (Gleadhill and Payne, Louthbury.  
**Robinson**, Nathan, of the Paragon, Southwark, tanner. (Perings, Laurence poundney hill.  
**Ross**, Alexander, and John Ogilvie, Argyle street, army agents. (R. and B. Shawe, Tudor street, Blackfriars.  
**Stewart**, Robert, and William Stewart, Manchester, merchants. (Key and Kenning, Manchester.  
**Stone**, George, Gosport, shoemaker. (Tarrant and Moulie, Chancery lane.  
**Speed**, George, Blackman street, fabric keeper. (Gallyer, Great East Cheap.  
**Sothery**, John, Coningsby, brewer. (Wilson, Castle street, Holborn.  
**Shipley**, Thomas, Walcot, coachmaker and cornfactor. (Atchdale and Alexander, New Inn.  
**Solomons**, Isaac, Osborn place, Whitechapel, insurance broker. (Aubert, Symond's inn.  
**Savery**, Thomas, Scutbourn, miller. (Geldart, Holborn court, Gray's Inn.  
**Thompson**, Charles John, Goswell street, silversmith. (Smedley, Aldergate street.  
**Teasdale**, William, Manchester, cotton broker. (Rushworth, Bartholomew close.  
**Thompson**, William, and Percival Barker, Dean street, Southwark, merchants. (Wade, Barlow, and Grosvenor, Austin friars.  
**Wheeler**, Joseph, Hampstead, victualler. (Denton, Field court, Gray's Inn.  
**Wardell**, George, Mansel street, Goodman's fields. (Evitt and Dixon, Haydon square, Minorities.  
**Wilson**, John, Nantwich, timber merchant. (Wilson, Crown office row, Temple.  
**Wilde**, James, Dale in Saddleworth, clothier. (Batty, Chancery lane.  
**Watkins**, John, Northmoor, butcher. (Edmonds and Son, Exchequer Office of Reas, Lincoln's inn.

## DIVIDENDS ANNOUNCED.

**Allen**, Henry, Liverpool, merchant, April 30.  
**Andrews**, Henry, Elstead, mailman, March 31, final.  
**Beaulands**, William, and Benjamin Beaulands, Bradford, woolstapler, March 16.  
**Bjorkhorn**, William, and John Mulgan, Fether lane, silk-weavers, March 20.  
**Bevington**, Samuel, Gracechurch street, merchant, April 1, final.  
**Brooke**, Francis, William Farrar, and Robert Rose, Basinghall street, warehousemen, separate estate of Brooke, March 20.  
**Bax**, Henry, Farningham, tailor, merchant, March 27.  
**Bird**, Joseph, Boundingdale, hatter, March 24.  
**Blunt**, Thomas, Goddaining, money scrivener, March 27.  
**Broadbent**, Benjamin, Stanton, bookseller, March 27.  
**Bramhall**, Richard, Sheffield, cutlers, and Patrick Bramhall, March 20.  
**Barker**, Jonathan, Upper Thames street, grocer, April 14, final.  
**Benfield**, Bacon, Yarmouth, liquor merchant, April 7, final.  
**Becks**, Andrew Berkeley, Green street, Grosvenor square, upholster, March 17.  
**Blackman**, Jeremiah, Kimehouse, timber merchant, April 17, final.  
**Bulfield**, William, Lancaster, shopkeeper, April 2, final.  
**Boque**, Peter, Whitmans, builder, April 14.  
**Burroughs**, James, Chiswell street, hatter, April 10.  
**Chapman**, John, Yarmouth, linen draper, March 24.  
**Cowlshaw**, Charles, Ashborne, grocer, April 21.  
**Curtels**, John, and John Stevens, Penryn, shopkeepers, March 8.  
**Chinner**, Thomas Oldham, Walfall, mercer, March 20.  
**Copper**, Thomas William, Pancras lane, warehouseman, April 28.  
**Chivers**, William, Newgate street, upholster, April 17.  
**Doran**, Michael, and Henry Duffin, Stratford on Avon, linen drapers, March 27, final.  
**Doran**, Edward, and Archer Waitings, Long Acre, coach-makers, March 7.  
**Dunlevy**, Christopher, Charles street, Hatton Garden, jeweller, April 28.  
**Dalton**, James, Deptford, bricklayer, April 18.  
**Edmundson**, John, Cadishead, and Isaac Edmundson, Redwick, dyers, March 17.

Elderson,

Elderton, John, Great Carter Lane, off and colorman, March 27, final.  
 Forbes, John, and Daniel Gregory, Aldermanbury, merchants, trading in the firm of, Burton, Forbes, and Gregory, April 27, separate estate of Gregory, final and separate estate of Forbes, final.  
 Frazer, Henry, Northgate lane, grocer, April 7.  
 Fynn, John, (partner with James Rowland) Newcastle on Tyne, soap maker, April 5.  
 Gouldsmith, Richard, New Bond Street, embroiderer, April 7.  
 Gale, Isaac, Bradford, clothier, March 28, final.  
 Hallam, Edward, Eury, druggist, March 20.  
 Howgate, Richard, Wabot, builder, March 20.  
 Howgate, George Thomas, Pealwall, Suffolk, farmer, March 28, final.  
 Hathway, Francis, Little St. Thomas the Apostle, broker, March 28.  
 Nurr, David, Lindley, cloth dresser, March 28.  
 Mallowes, James, Goldsmith Street, ribbon weaver, April 17, final.  
 Mountell, John, Wyndport, ironmonger, April 5, final.  
 Hopwood, David, Union Street, St. Mary le bonne, grocer, April 19, final.  
 Harris, Francis, and Samuel Stone, Bristol, merchants, April 19.  
 Malch, Charles, Ellerton, horse jobber, April 19, final.  
 Herinshaw, Richard, Palace wharf, Lambeth, corn and coal dealer, April 14.  
 Idell, Nicholas, Hambleton, surgeon, March 26.  
 Kempson, Samuel, Fleet Street, linen draper, April 19.  
 Kins, John, Coventry, innholder, April 7, final.  
 Lowe, Charles, Jus Sohus, miller, March 8, final.  
 Lund, William, Virginia Street, builder, March 31, final.  
 Larkin, Charles, Rochester, coachmaker, April 28.  
 Lawton, William, Manchester, grocer, March 26.  
 Lloyd, John, Worick, victualler, March 27.  
 Longdale, Edward, York, linen draper, March 29.  
 Lickley, John, Newcastle Street, hofer, April 7, final.  
 Mauby, Thomas, and George Malby, Essex lane, merchants, April 10.  
 Matthews, George, and Thomas Turnbull, Eudge row, merchants, April 9.  
 Mous, John, Hampstead, cornhandler, April 24, final.  
 Middleton, Tho. Liverpool, cotton manufacturer, April 16.  
 Metcalfe, Thomas, Birmingham, fado, April 19, final.  
 Moss, John, Salisbury, ironmonger, April 10.  
 Mozley, Lewis, Liverpool, watchmaker, April 14.  
 Nowling, James, (partner with John Eids, jun.) Newcastle on Tyne, soap boiler, April 5.  
 Nufan, Thomas, Manchester, war-houfeman, April 14.

Owen, Robert, and William Mardle, Hornmitch, copper-smiths, April 14.  
 Peterson, James, Stradbroke, tanner, March 27.  
 Perrins, William, Bedworth, mather, April 5, final.  
 Pourtales, Andrew, Paul, and Andrew George Pourtales, Broad Street buildings, merchants, April 28.  
 Phillips, John, Eccles, fustian manufacturer, April 15.  
 Pycock, Theodosius, and Marvaduke Ward, Pycock Kingdon on Hull, builders, April 7.  
 Ruffell, John, Woodhills, broker, April 26, final.  
 Richmond, John, Skerton, gardener and joiner, April 5, final.  
 Riches, George, Queen Street, Chiswick, warehousman, April 20, final.  
 Rowland, Northy, and Peter Rowland, Great Coggeshall, blanket makers, April 11.  
 Robinson, Michael, Liverpool, mon-7 Crivener, April 17.  
 Sander, William, Birmingham, dealer, April 11, final.  
 Shirreff, Alexander, Newman Street, tailor, March 20.  
 Schitel, Bartholomew, Maufon house Street, merchant, March 21.  
 Spars, William, Roofs Lane, 6th Gleffman, April 7.  
 Sikes, Richard, Chesapeake, linen draper, May 11, final.  
 Sommervall, James, Liverpool, merchant, April 7.  
 Townsend, William, Bath, silver smith, March 20.  
 Townsend, Thomas, Bath, silver smith, and John Townsend, of Bathwick, victualler, March 20.  
 Thompson, Andrew, and Barchofnew White, Bow lane, wholesale hofers, trading in the firm of White and Co. March 22.  
 Tarn, William, El hop Wearmouth, painter and glazier, March 19.  
 Toulmin, Oliver, Edax Street, Strand, navy agent, April 10.  
 Thacker, Anthony, Upwell, E.Y. corn merchant, March 26, April 18, final.  
 Travis, Joseph, and Peter Nevill, Bolton le Moors, muslin manufacturers, separate estate of Nevill, April 13.  
 Tredwell, Henry, Wolvercut, yeoman, April 19, final.  
 Vanduyck, Peter, Dublin, dentist, Arnold John Govers, Leuven, and Wynand Adriaen de Gruiter Vink, Circus, Manors, merchants, March 26.  
 Wicks, William, Middle row, Holborn, haberdasher, March 17.  
 Wilde, James, John Watts, and John Eody, Upper Thames Street, wholesale grocers, March 20.  
 Warren, Thomas, Jun. dury, shopkeeper, March 29, final.  
 Whit e, William, (partner with John Jarvis) Southampton buildings, brandy merchant, March 24.  
 Wilton, Richard, Aread Street, merchant, March 17.  
 Whitehead, Edward Charles, Whitehead, carpenter, April 28.  
 Wrighton, Daniel, Little Aline, fax dresser, April 10.

### Prices of Raw Hides, Hay and Straw, &c. for March, 1804.

	First Week		2d Week		3d Week		4th Week	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
<b>Raw Hides.</b>								
Best Heifers & Steers, pr ft.	3 8	to 4 0	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
Middling —	3 4	to 3 6	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
Ordinary —	3 0	to 3 2	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
Market Calf —	10	6	—	—	—	—	—	—
Eag. Horfe —	15s	to 17s	—s	to —s	—s	to —s	—s	to —s
Sheep Skins —	3 6	to 7 0	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
Lamb Skins —	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
<b>Prices of Hay and Straw.</b>								
St. James's—Hay —	4 18	0	4 17	0	4 18	0	4 16	0
—Straw —	1 16	0	1 13	0	1 17	6	1 16	6
Whitech.—Hay —	4 19	6	4 17	0	4 15	0	4 15	0
—Clover —	6	0 0	6	0 0	5 18	0	5 14	0
—Straw —	1 13	0	1 14	0	1 15	0	1 15	0
<b>Newbury.</b>								
Wheat —	33s	to 58s 6d	40s	to 58s 6d	40s	to 59s	40s	to 60s
Barley —	19s 6d	to 23s	20s	to 23s	20s	to 24s	24s	to 25s
Oats —	18s	to 22s	18s	to 23s	20s	to 26s	18s	to 26s
Beans —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
New ditto —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Peas —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
<b>Salisbury.</b>								
Wheat —	49s	to 52s	49s	to 52s	49s	to 53s	49s	to 53s
New ditto —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Barley —	20s	to 24s	20s	to 24s	20s	to 24s	20s	to 24s
Beans —	—s	to —s	—s	to —s	—s	to —s	—s	to —s
Oats —	20s	to 23s	19s	to 23s	19s	to 29s	20s	to 24s
Peas —	—s	to —s	—s	to —s	—s	to —s	—s	to —s

**Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for March, 1804.**

<b>Price of Hops.</b>		<b>First Week</b>		<b>2d Week</b>		<b>3d Week</b>		<b>4th Week</b>	
<b>Bags.</b>		<i>s.</i>		<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>
Kent	—	96 to 108		96 to 110		95 to 112		100 to 114	
Suffex	—	94 to 100		94 to 100		95 to 105		100 to 106	
Essex	—	94 to 108		94 to 108		95 to 105		100 to 106	
<b>Pockets.</b>									
Kent	—	108 to 124		108 to 124		105 to 125		116 to 130	
Suff-x	—	100 to 112		100 to 112		105 to 120		110 to 124	
Farnham	—	120 to 168		120 to 168		160 to 189		180 to 200	
<b>Seeds.</b>									
Red Clover per cwt.	—	56 to 90		56 to 90		40 to 80		40 to 84	
White Clover, ditto	—	70 to 120		70 to 120		70 to 118		70 to 113	
Trefoil, ditto	—	35 to 65		35 to 65		40 to 63		30 to 67	
Caraway ditto	—	— to 75		— to 75		— to 75		— to 75	
Coriander ditto	—	16 to 20		16 to 20		16 to 20		16 to 20	
Turnip, (per bushel)	—	22 to 24		22 to 24		22 to 24		22 to 24	
White Mustard Seed	—	8 to 9		8 to 9		8 to 9		8 to 9	
Brown ditto	—	14 to 16		14 to 16		14 to 16		14 to 16	
Canary Seed	—	6 to 7		6 to 7		6 to 7		6 to 7	
Rape Seed, (per last)	—								
<b>Meat at Smithfield,</b>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
<b>To sink the offal, p. st. 8lb.</b>									
Beef	—	4 4 to 5 8		4 0 to 5 4		4 0 to 5 6		4 4 to 5 8	
Mutton	—	5 0 to 5 8		4 8 to 5 6		4 8 to 5 8		5 0 to 5 8	
Veal	—	6 0 to 6 6		3 4 to 5 0		5 0 to 6 4		5 0 to 6 6	
Pork	—	3 4 to 4 8		3 4 to 4 4		3 4 to 4 4		3 8 to 4 8	
Lamb	—	0 0 to 0 0		0 0 to 0 0		0 0 to 0 0		0 0 to 0 0	
Head of Cattle—Beasts about		2,000		1,800		2,000		2,000	
Sheep		10,500		85,000		8,500		9,500	
<b>Price of Leather.</b>		<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
Butts, 50lb. to 56lb. each		20½ to 21½		20 to 21		21 to 21½		21 to 21½	
Ditto, 60lb. to 65lb. each		23 to 24		23 to 24		22 to 23½		23 to 24	
Merchants Backs	—	20½ to 21		20½ to 21		— to 21		— to 21	
Dressing Hides	—	20½ to 22		20 to 21		20 to 22		21 to 22½	
Fine Coach Hides	—	22 to 23½		22 to 23		22 to 23½		22½ to 23½	
Crop Hides for cutting	—	22 to 23½		22 to 23½		22 to 23½		22 to 23½	
Flat Ordinary	—	21 to 22		20½ to 21½		20½ to 21½		21 to 21½	
Calf Skins, 30 to 40lb. p. doz.		28 to 33		24 to 33		28 to 32		23 to 32	
Ditto, 50lb. to 70lb. do.		29 to 32		28 to 32		28 to 33		27 to 30	
Ditto, 70lb. to 80lb. do.		28 to 30		28 to 30		27 to 30		27 to 30	
Sea. Seals (Greenland)		42 to 45		42 to 45		42 to 48		42 to 45	
Large do.		51 to 71 10s		51 to 71 10s		51 to 71 10s		51 to 71	
Tanned Horle Hides		20s to 30s		20s to 30s		20s to 32s		20s to 32s	
Goat Skins per doz.		—s to —s		—s to —s		—s to —s		—s to —s	
<b>Price of Tallow.</b>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
St. James's Market	—	4 10		4 7½		4 6		4 4	
Clare Market	—	4 9½		4 7		0 0		4 3	
Whitechapel Market	—	4 8½		4 5		4 2		4 2½	
Per stone of 8lb. Average		4 9½		4 6		4 4		4 3	
Town Tallow	—	8 1 6		7 7 0		7 4 6		7 2 6	
Russia ditto (Candles)	—	75 0		75 0		73 6		72 6	
Russia ditto (Soap)	—	72 0		72 6		73 2		72 6	
Melting Stuff	—	63 0		63 0		62 0		60 0	
Ditto rough	—	44 0		44 0		42 0		42 0	
Graves	—	14 0		14 0		14 0		14 0	
Good Dregs	—	12 0		12 0		12 0		12 0	
Yellow Soap	—	84 0				80 0		80 0	
Mottled ditto	—	92 0				88 0		84 0	
Curd ditto	—	96 0				92 0		88 0	
Candles, per dozen,	—	12 0				12 0		11 0	
Moulds	—	13 0				13 0		12 0	

**PRICES OF COALS AT THE COAL EXCHANGE, LONDON,**  
**For MARCH, 18c4.**

Names of Coals.	Wed. 22d	Frid. 24th	Mon. 27th	Wed. 29th	Frid. 2d	Mon. 5th	Wed. 7th	Frid. 9th	Mon. 12th	Wed. 14th	Frid. 16th
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Adair's Main							50 6				
Baker's Main											
Bedford Main											
Benton	46 6										
Biddick Main											
Bigg's Main	9 6		46			51					
Bladon Main											
Blyth											
Boundry											
Burn Moor									60		
Brandling											
Birtley											
Byker											
Byker, High & Low											
Cowden		Nothing done.		Nothing done.		Nothing done.			Nothing done		Nothing done
Derwent											
Eden Main											
Eighton Main											
Fleekton											
Greenwich Moor											
Haigh Moor											
Hartley			44 6								
Heaton Main						51					
Hebburn Main							57				
Holywell											
Keston Main	49 6		46			51					
Lambton's Low d t											
Lawton's Main											
Mosley Hill											
Montague Main											
Mount Moor											
Murton											
Murton High Main											
Newbottle											
New Tansfield											
Pitt's Tansfield M.											
Primrose											
Pontop											
Percey											
Rectory											
Ruffel's Main											
Sheriff Hill											
South Moor											
Stanley Main											
St. David											
Team											
Tyne Main											
Usworth Main											
Walbottle Moor											
Walker											
Wall's End	50 6		46 6								
Warwick											
Wharton											
Willington											
Wylam Moor	46 6										
Wentworth											
Whitefield											
Main Wooler											

AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per boll, of 140 pounds Avoirdupoise:

From the Returns received in the Week, ended MARCH 17, 1804.

### INLAND COUNTIES.

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Manna.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	52	7			12	8	24	2	32	2	34	10	49	3
Surrey	54	8	30	0	14	1	23	8	35	0	35	0		
Hertford	48	8	35	6	11	9	19	6	31	6	34	0		
Bedford	42	2	32	0	10	0	20	3	27	10	36	0		
Huntingdon	43	3			19	0	18	8	26	7	31	11		
Northampton	49	10	30	0	19	8	18	8	27	0	30	0		
Rutland	51	6			11	0	19	0	30	0			57	3
Leicester	57	2			12	7	18	1	29	7	30	1	55	4
Nottingham	56	8	30	0	14	3	20	8	33	9				
Derby	58	10			16	2	20	4	38	4	39	0	16	3
Stafford	52	1			15	8	21	4	42	6			36	2
Salop	48	0	35	10	15	6	12	9	40	10	42	4	63	7
Hereford	42	6	30	4	13	0	22	4	42	1	40	11	58	5
Worcester	46	4			14	7	23	9	39	4	44	3		
Warwick	50	6			15	4	22	7	36	4	54	8	40	3
Wilts	51	8			13	6	21	8	39	10	36	0		
Berks	54	3			12	11	13	4	33	9	33	8		
Oxford	47	3			11	10	6	30	2	32	5			
Bucks	51	10			11	0	20	10	29	10	32	9		
Brecon	48	0	32	0	14	0	17	8			36	8	32	1
Montgomery	45	3			19	1	16	4			37	4	38	2
Radnor	44	10			13	11	19	9			43	2	67	10

### Maritime Counties.

Essex	51	6	27	6	20	10	13	10	30	7	29	0		
Kent	52	8			24	4	25	10	31	10	33	6		
Suffex	53	10			26	0	24	6						
Suffolk	47	0			19	5	19	7	26	3	28	1	49	0
Cambridge	40	8			17	11	15	0	26	5				
Norfolk	42	10	52	2	18	4	16	8	27	3	31	6		
Lincoln	44	8	23	0	20	11	16	8	28	5	30	0		
York	47	3	35	0	22	5	18	9	33	3	66	8	38	2
Durham	46	11			24	8	21	4						
Northumberland	42	10	34	0	20	0	19	8			26	8	15	6
Cumberland	54	0	40	10	24	8	21	4						
Westmorland	52	8	43	6	26	0	21	8						
Lancaster	56	11			28	1	24	2	40	11			19	7
Chester	49	7			28	2	21	0					19	4
Flint	51	2												
Denbigh	54	1			25	9	19	2	41	8	35	3	35	7
Anglesea														
Carnarvon	59	4			24	0	17	0					38	2
Merioneth	52	8	44	0	27	6	18	10			56	0	34	5
Cardigan	47	7			18	3	12	7						
Pembroke	44	9			19	8	13	4						
Carmarthen	51	5			22	2	14	8						
Glamorgan	49	2			26	8	18	9						
Gloucester	47	6			22	6	20	4	36	4	36	0		
Somerset	52	7			24	3	19	10	35	3	48	0		
Monmouth	49	2			24	6								
Devon	55	7			24	9	19	3						
Cornwall	53	5			24	11	19	11						
Dorset	51	10			22	5	25	0						
Hants	49	5			22	10	25	11	35	9	40	0		

A TABLE of the Prices of STOCKS in March 1864.

18 4	Bank Stock.	3 per Ct. R-d.	3 per Ct. Confols.	4 per Ct. Confols.	5 per Ct. Navy.	5 per Ct. Loyalty.	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irish 5 pr. Cent.	Omnium	India Stock.	English Tickets.	Consols for Account
Feb. 27	152½	55½	55½	72½	88½	94½	16 3-8		54½	9 7-16			160	17 8 0	55½
28	153	55½	55½	72½	88½	94½	16 7-16		54½	9 7-16			169½	17 8 0	55½
29	154	56	55½	73	88½	94½	16½		54½	9½			169½	17 8 0	56
Mar. 1	155½	—	55½	73½	89	95½		3 7-16	54½	9½			170½	17 8 0	56
2		—	55½	73½	89			3 7-16	55	9 9-16				17 10 0	56
3		—	55½	73½	89					9 9-16				17 10 0	56½
4		—	55½	73½	89				55½	9½				17 10 0	56½
5		—	55½	73½	89				55½	9½				17 10 0	56½
6		—	55½	73½	89				55½	9½				17 10 0	56½
7		—	55½	73½	89				55½	9½				17 10 0	56½
8		—	55½	73½	89				55½	9½				17 10 0	56½
9		—	55½	73½	89				55½	9½				17 10 0	56½
10		—	55½	73½	89				55½	9½				17 10 0	56½
11		—	55½	73½	89				55½	9½				17 10 0	56½
12		—	55½	73½	89				55½	9½				17 10 0	56½
13		—	55½	73½	89				55½	9½				17 10 0	56½
14		—	55½	73½	89				55½	9½				17 10 0	56½
15		—	55½	73½	89				55½	9½				17 10 0	56½
16		—	55½	73½	89				55½	9½				17 10 0	56½
17		—	55½	73½	89				55½	9½				17 10 0	56½
18		—	55½	73½	89				55½	9½				17 10 0	56½
19		—	55½	73½	89				55½	9½				17 10 0	56½
20		—	55½	73½	89				55½	9½				17 10 0	56½
21		—	55½	73½	89				55½	9½				17 10 0	56½
22		—	55½	73½	89				55½	9½				17 10 0	56½
23		—	55½	73½	89				55½	9½				17 10 0	56½
24		—	55½	73½	89				55½	9½				17 10 0	56½
25		—	55½	73½	89				55½	9½				17 10 0	56½
26		—	55½	73½	89				55½	9½				17 10 0	56½

T. BISH, Stock-Broker, Old State-Lottery Office, No. 4, Cornhill, London.

## TO OUR CORRESPONDENTS.

**T**HE Postscript of P. J. as far as relates to any material correction, we assure him shall not be neglected in the concluding Number of the present volume. The manuscript has been carefully examined since the receipt of his last communication. We must observe, we do not hold ourselves responsible for any inaccuracies of the original; and we hope he will do us the justice to impute some of them to the right cause.

V. A. will observe that we have complied with his request. We shall be glad of his "word of answer" to Agricola Norfolciensis.

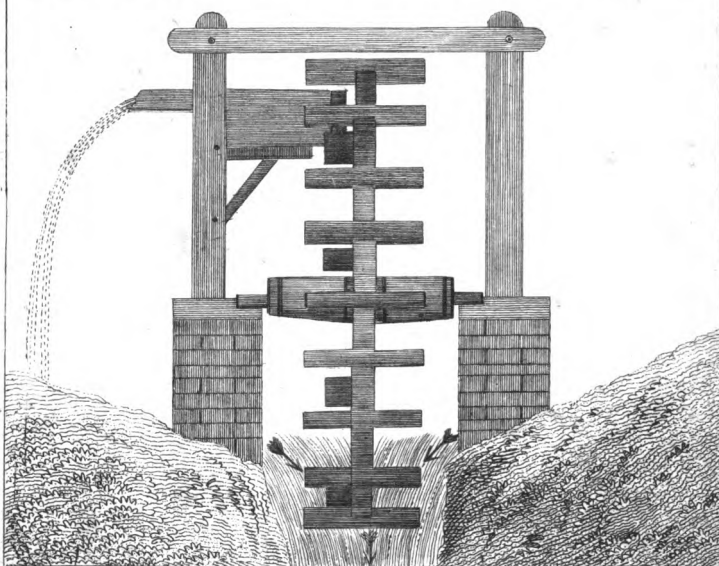
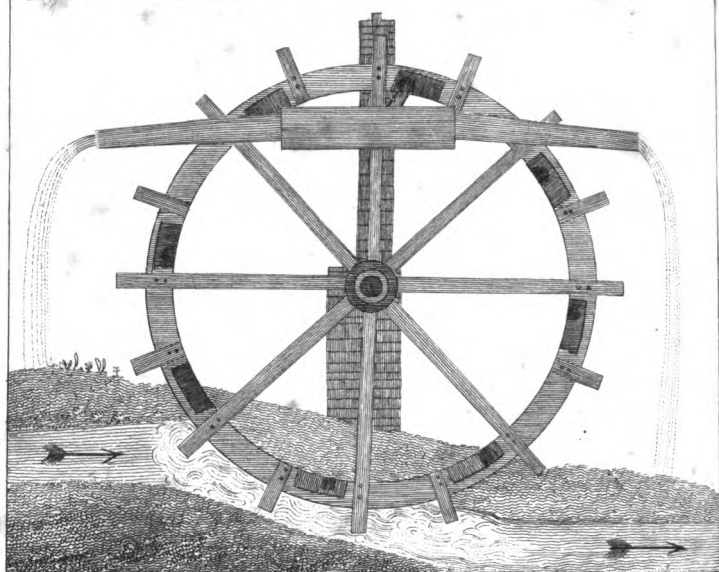
We are desired by Chorographus to signify to Agricola Northumbriensis, that if the latter will have the goodness to prepare a paper for No. 58, or any other he pleases, on the subject of the Agriculture of the county of Northumberland; Chorographus will be very happy to see the description in such able hands, and we are assured he will not "venture to undertake it," unless A. N. should wholly relinquish his intention adverted to in page 122 of our last Number.





Section & Front View of the German Lifting Wheel used in America.

*Agricultural Magazine N<sup>o</sup> 57*



*Heule & Co. brand.*

*Published April 30, 1864, by T. Griffiths, Paternoster Row.*

# THE AGRICULTURAL MAGAZINE.

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No. LVII.]

APRIL, 1804.

VOL. X.]

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DESCRIPTION OF A MACHINE FOR THE PURPOSE OF IRRIGATION, WITH REMARKS ON CERTAIN OBJECTIONS MADE TO THE EXPEDIENT OF FLOATING LANDS.

[WITH A PLATE ANNEXED.]

*To the Editor of the Agricultural Magazine.*

SIR,

**A**N infinity of contrivances have been resorted to for the purpose of raising one of the most important and useful of the elements, water; if, indeed, under the present improvements in the art of Chemistry, we may be permitted to speak of water, even in a popular way, as an elementary principle. Whatever other arts or sciences have conducted to the improvement of Agriculture, it will be universally acknowledged, that hydraulics, or that part of statics which considers the motion of fluids, has been in a very small degree consulted to facilitate the increase of vegetable productions, and yet it is certain, not only from the observations of the modern, but from the discoveries of the ancients, that it may be extensively applied to multiply these gifts of Nature. You, Sir, have not wholly neglected the theory of this science as applicable to the purposes of agriculture; many sections of your work contribute valuable instruction on this subject, and in the 303d page of your second volume, you have introduced a plate of the Persian Wheel for floating meadows, which no doubt both has deserved and received the attention of your readers. It might have been explained in that paper, that it was a machine most conveniently adapted for the purpose of raising water, because it required neither men or animals to turn it, and working in the stream by the impetus the water alone supplied, it fulfilled the purpose intended under the most advantageous circumstances. With the present communication I have accompanied a drawing, which I think worthy the ingenuity of your artist; it represents a wheel of a similar kind, under two views, but more suitable in the form, and more easy in the expence. It has been frequently called a lifting wheel. It may be constructed at a very trifling charge, from an old cart wheel which is no longer adapted to the design for which it was made. It may be made of common deal, oak, or any other boards, nailed together in

*Ag. Mag. Vol. 10.*

I i

the readiest way : the object is, to approximate such material to the shape of a circle, whose diameter is equal to the perpendicular height of the summit level to which you would raise your water at a single operation ; allowing for so much thereof as should dip into the stream to fill your buckets, and so much as should pass above the uppermost trough to discharge the water from them.

This shape is then reduced to an exact circle, by the means of a line and chalk extended from its centre, and the surplus plank being hewn down to the scribe of the circle, an axis of about two feet six inches in length is fitted to it, with arms of the same plank, and two small iron gudgeons to turn upon. Flutters are then fitted on with the saw, and cleated at convenient distances ; with a close box between every second and third of them, nailed upon the rim of the wheel. These buckets (by some termed gaining and losing buckets) have two apertures or holes for receiving and discharging the water ; and as the bucket is immersed in the stream below, by the power of this little rapid acting upon the incussive flutter-boards, the water is taken in at one hole, and discharged out of the other, as the wheel revolves it over the trough above.

No doubt the chain-pump, the sucking, forcing, or lifting pump, or the massive wheel of Archimedes, would answer the same purpose, but the question most material is, not how water should be raised, but what is the expedient by which it may be elevated at the smallest expence, and with the least proportion of labour. In some of your papers, Sir, you have expressed indignation at the enormous charge for farming-engines ; and in one of your late numbers, you have favoured us with a contrivance of a Scottish carriage, which may be built at one sixth of the expence of the carts commonly used in agriculture, I am therefore to suppose, that you include in your consideration the cheapness as well as the utility of farming machinery, in order that any beneficial invention may be both generally known, and as generally employed.

You have, in the course of your work, endeavoured to naturalize the practice of intelligent foreigners, and with this view you have explained the knowledge they have acquired from the peculiar circumstances of climate and situation under which they live. A short illustration from the principles by which you are actuated, is applicable to the hydraulic wheel, which is the subject of the present paper. It is used in America, principally by the emigrants from Holland and the Low Countries. When a Dutchman penetrates into the wide regions of the western world, to seek an establishment for himself and his family, his first object is to discover a good situation for a water-mill, and for his hydrostatic machinery, and the meadow ground to which it may be applied. He is con-

vinced, that with these acquisitions the means of subsistence are secure; a fall from a large stone of eight or ten inches, is, by the application of his skill, soon converted into a cataract of as many feet, and nature is rendered subservient to his wishes.

As I shall probably send for insertion a few papers on the subject of irrigation, as practised in different districts, I shall apply the remainder of this article to the consideration of some of the objections which have been made to the practice. Among these objections, it has never yet been asserted to be an innovation. Both ancient and modern nations have resorted to it, and it is one of those inexplicable riddles in the complication of human affairs, that it has been so much neglected in this country, where practical farming is supposed to be better understood than in any other.

Would it be believed, that in England, where one-fourth of the land is waste and unproductive, we should be such great niggards of the soil as to object to irrigation, because the drains and trenches required for it occupy a minute portion? For this trifling sacrifice, the remaining ground is converted into a hot-bed, and the quantity of produce is trebled and quadrupled.

But it is expensive.

Agriculture is defined in one of your papers, as the art of producing the highest balance of profit in favour of the cultivator. The question then is, not what are the expences incurred, but what ratio do these charges bear to the ultimate produce?

But the hay produced under irrigation is not good.

It is a vulgar proverb, that the best proof of the pudding lies in the eating, and although the experiments that have fallen within my notice are not numerous, yet, as far as I can judge from these, I am inclined to think the objection is not founded in correct observation, and that it is one of the fallacies which the prejudices of those have supplied who are too often the determined enemies of every species of improvement.

A more rational objection is, that proprietors and renters of streams are occasionally to be paid for the use of the water employed. This charge is no doubt to be placed against the increased produce, and I think it will be seldom found to exceed one twentieth part of the benefit to be derived from it. It is among the great advantages of the present pursuit of canal speculations, that a portion of the water by which the country is thus intersected in every direction, may be conveniently applied for the purpose of irrigation, and thus a handsome and unexpected rental will be acquired by the adventu-

pers in those schemes, and an abundant source of wealth will be given to the intelligent farmer.\*

Not to intrude further on the limits of your miscellany, I shall subscribe myself, with the warmest wishes for its success,

Yours, &c.

Exeter, April 2, 1804.

D. Y.

\* Those who are acquainted with the history of Canals, in France, are informed of the extensive emoluments from this source, in the grand Canal of Languedoc.

## ON THE CULTURE OF POTATOES FROM SEED AS PREFERABLE TO SETS.

*To the Editor of the Agricultural Magazine.*

SIR,

THE season is approaching for planting the main crop of potatoes. Professed gardeners, and others, curious to produce early potatoes, will risque to plant even in the month of February, and so on, to the present time; but I have reason to be of opinion, that the entire month of May is *generally* the prime season for a full crop. The plant being an exotic, brought originally from the vicinity of the tropical lines, is impatient of our spring frosts, and requires, as near as may be, a temperature resembling its own.

Somewhat about the beginning of May, I think, therefore, would be the earliest period, with perfect safety, in this variable climate, to commence the culture. More than twenty years experience and observation have also confirmed me in the opinion.

The unnatural, but convenient; and perhaps, indispensable, mode of propagation, by the offsets of the bulb, or cuttings, seems calculated to induce a diminution of vegetative vigour, for it is well known, but not as generally as it ought to be; that after a few years, perhaps ten or twelve, these cuttings, from any given species, very obviously decline in produce, and progressively, till they become not worth the culture. Hence the propriety of the practice adopted in Lancashire, and in some few other instances of frequent recurrence to the *seed*, by which the objection is not only obviated, but new varieties, almost next to infinite, are produced, which, by attentive selection not unfrequently exceed the original stock in every valuable property. The most important criterion of *value*, I take to be the greater quantity of farina, or flour, contained in any assigned portion or weight of the bulb, which I have known to vary, in different species, from nearly one-third part to one-ninth; the remainder, consisting of a

large proportion of water (*not glutinous*,) and a small quantity of fibre.

The proportions of the better sorts might then be thus expressed :

30	parts farina
65	— water
5	— fibre

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100

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The *seedling* plants and the cuttings, not many removes from them, are found universally to be highly productive, *i. e.* in number of bulbs; for the size or weight of these depends much, of course, on the nature of the soil, of the season, and of the culture.

From failure of the crops in these parts the last remarkably dry season, and I apprehend it was in a great degree general, the price of potatoes is at this time excessively high. By comparison with the price of wheat, I persuade myself they are of more than double the price of bread.

This seems to be a very striking and important fact, and calculated, I would hope, to induce a system of oeconomy, namely, as much as may be to substitute bread for the potatoe, in order that a quantity of the latter might remain for an extensive breadth of planting in the ensuing season, as well as in some degree to reduce the present price; for many, I fear, will be unable to plant from the extravagant cost, who otherwise would be under every suitable circumstance for planting.

I have mentioned May as the principal month for planting; April, however, in such favourable seasons as are free from sharp frosts may be equal; and even June, when copious showers succeed, may be equal to either. I have sometimes planted in the latter part of June with good effect; and from planting of about the middle, I have obtained crops as abundant as from that of any other period.

To some persons it may appear to be an extraordinary observation, but I consider the present low price of wheat to be matter of regret. It is an *extreme*, oppressive to the cultivator, and which, at no very distant period, will be apt to beget its *opposite*—both alike injurious to the permanent interests of society. The legislature, with the purest and most benevolent motives, interpose regulations to preserve an equitable mediocrity between the grower and consumer; nevertheless, we experience the extremes of too high and too low in alternate succession.

Bath,

I remain, Sir, your obedient Servant,

Apr. 9, 1804,

NEHEMIAH BARTLEY.

# ON THE CULTURE OF TURNIPS, AND ON SOME IMPROVEMENTS IN COOKE'S DRILL.

*To the Editor of the Agricultural Magazine.*

SIR,

*Fakenham, April 14, 1804.*

THE late communications of your spirited and judicious correspondent A. Northumbriensis, have altogether removed from my mind prejudices which I acknowledge I have for years fondly indulged in favour of the method so long pursued by the natives of this county in the cultivation of turnips; and however mortified I may feel at the discovery, I heartily agree with A. N. that the once celebrated Norfolk is no longer such on *that score*, and must yield the palm to her northern brethren of the plough. Even if mere argument in favour of raised ridges for turnips had failed to convince me, (which by the bye I think my former communications to you, Mr. Editor, will prove I held in high estimation, even before I heard or read of such practice being in existence,) the assertions of A. N. have perfectly satisfied me; and being told that such practice is pretty general in the north of England, and southern parts of Scotland, I feel confident that actual experience has taught them the superiority of it above the common mode, and that it must be an eligible plan for all occupiers of similar soils. I beg, however, to ask your correspondent, whether the carting and spreading the dung upon raised work, or, more properly speaking, into the open furrows by fork or shovels previous to the splitting back the ridges upon the manure, does not add considerably to the expence? I tried the experiment last year upon two acres only, and found this process a very tedious one indeed, compared with the expedition practicable upon a flat surface. If the farmer who has to sow upwards of two hundred acres were to pursue this plan throughout, and had none of his land manured till the sowing season had commenced, I cannot understand how he would be able to dispatch the whole in proper season. If I err, I hope your next will set me right, as any further information on this subject would very much gratify me. The probable success of my experiment of last year was, unfortunately, never ascertained; for the turnips which were of the Swedish sort, fell a sacrifice to the rapacity of flies, in common with, perhaps, three-fourths of all the turnips sown in this county. A. N.'s observations on the difficulty of drawing straight furrows with the double-breasted plough with expanding wings fully accord with my own experience; nevertheless, the dispatch with which the work is ridded makes full amends for other inconveniences.

One more question, and I have done, (for I perceive that the objection I am about to propose is not noticed amongst

several others which your correspondent has very ably and satisfactorily answered in your Magazine for December last.) Are not the turnips which grow on raised ridges, more exposed to, and injured by severe frosts, than those which are produced in the common method?

By way of return to the civility which P. J. has shewn to all your *practical* Readers, by recommending a peculiar form of coulter for drilling on flag-lands, I beg leave to ask that gentleman if he has yet seen the method adopted in this neighbourhood to prevent what we here call the *clouding* or uneven appearance of barley, or other grain, at its first rising, when viewed across the drills. It is this: to fasten a bit of thin board across the mouth of the funnel by way of inclined plane; by which means the grain, which would otherwise have fallen down in *clusters* from the cups situated perpendicularly to the orifice of the tin tubes, now falling on this inclined board, is well scattered, and no longer forms knots of blades, but lies in the most regular manner.

This, with *tin-joints* to the funnels, in lieu of canvas or leather, and a small *tracing-stick*, having an iron end in form of a little mattock, instead of the usual clumsy log or slade, I consider as useful improvements upon Cooke's original invention.

I am, Sir, yours, &c.

AGRICOLA NORFOLCIENSIS.

P. S. I am truly concerned to announce to your Readers, the death of a gentleman whose name has lately been mentioned in your work as the author of a pamphlet on Tithes. I allude to the Rev. Mr. Howlett, Vicar of Dunmow, Essex. I had flattered myself, that he would one day have seen himself cited in your Magazine to defend some assertions which are contained in his pamphlet: but he is no more; and the position "that tithes are advantageous to agriculture," remains to be supported by surviving, but I will venture to add, not *more able*, disputants.

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THE ESTABLISHMENT OF A FLOCK OF SHEEP PRODUCING WOOL OF THE SPANISH QUALITY IN THE VICINITY OF BOTANY BAY.

*To the Editor of the Agricultural Magazine.*

SIR,

AS I am confident you are desirous of making your Magazine the vehicle of every important article of intelligence respecting agriculture, I shall submit the following particulars to your attention.

It is not generally known, that near Botany Bay, about 40 or 50 miles from the coast, a flock of fine woolled sheep has for many years been gradually increasing, so that it now is



augmented to the number of 4000. The wool in every respect is equal to that you have so frequently described in your work, of the Spanish breeds. This flock has been formed with a view to a commercial speculation, under the direction of Captain M'Arthur, sometime since engaged on military duty in New Holland, but who, in consequence of a rencontre with Governor King, when the latter was wounded, was about a year since sent under arrest to this country.

What may be the merits of these gentlemen in regard to this dispute, I do not pretend to determine, but I can speak with the most positive assurance and satisfaction on the deserts of Captain M'Arthur, as concerned in this valuable experiment for the supply of the British manufactures with the staple material.

Let it not be supposed that the freight of the commodity will be so extravagant as to disappoint the expectations of the projector; it is a matter of serious consideration to the ships destined to Botany Bay to procure a freight in return, and by these means it may be advantageously supplied.

It will deserve the attention of your able correspondent Mercator Tarraconensis, that this remote speculation has become the basis for the establishment of a new trading institution. Government, it seems, has not considered it right, that by the employment of the public territory, an individual, however meritorious, should enjoy the exclusive opportunity of acquiring an immense fortune in a short period; we understand, therefore, Mr. M'Arthur has been induced to offer his flock at 5*l.* a-head, and that a public company is to be established, in which the new house of Messrs. Hullet and Co. and the ancient house of Maitlands and Co. successors to Sir Robert Fludyer, will be principally interested.

Such are the facts which are stated to me as correct, and I shall be happy to bear them confirmed through the medium of your connections.

I do not wish that this new enterprize, however successful, should interfere with the endeavours of Mr. Nehemiah Bartley, and others who correspond with your work, to introduce the quality of Spanish wool on our British pastures. I am sure that the extensive demand for English cloths, which I see by the last estimates from the north, have exceeded in quantity any prior year, ought to afford them sufficient encouragement. The remote settlement to which I have adverted in the strange vicissitudes of the present day, must be exposed to a thousand contingencies, but whether it be preserved or destroyed, British industry will supply room enough to reward the labours of every competitor.

*London,*

I am, Sir, yours, &c.

*April 16, 1804.*

G. S.

# ON THAT SPECIES OF PERSONAL TITHES CONNECTED WITH COMMERCIAL AND TRADING PROFITS. IN REPLY TO CLERICUS.

*To the Editor of the Agricultural Magazine.*

SIR,

**Y**OUR Correspondent Clericus, in the last Number, introduces some free and manly observations on my letter respecting Tithes, in your preceding volume. I wish, Sir, that every disputant would, with the same boldness, declare his sentiments, as it would often tend to shorten controversy and to discover truth. "These are days," says this writer, "when the mania of revolution is invading all the ancient establishments, and when its fury and rapacity is peculiarly directed to the subversion of the rights of the sacred order. It is not, then, a time, when the maxims of sound wisdom should incline us to barter away those privileges which we have obtained from the piety of mankind. Let the Laity be satisfied with the forbearance of the Clergy, in not asserting their rights, lest, if the seculars should press us indiscreetly on this subject, we should think it prudent to resist their hostility, by availing ourselves of the weapon which the laws of our country have, on the most obvious principles of state policy, confided to our hands."

What, Sir, is this weapon, which the humanity of the Clergy has admitted to remain inactive? We are told in the preceding paragraphs, that it is the tithes on the exports from this country, amounting to "fifty millions sterling," and on the internal commerce, which (Clericus says) "from its extent and magnitude, seems to defy the calculations of the political arithmetician."

It is not my intention to alarm the Clergy by multiplying the statements already given of the revenues of the Church, but I should terrify both the Clergy and Laity, if I were to detail, from the ordinary calculations on the trade of this nation, the millions that would devolve to the Church annually, from this claim of personal tithes so confidently asserted.

I should, Mr. Editor, be extremely sorry to make your useful practical miscellany, the vehicle of juridical disquisitions on subjects of this nature, but as you have, in compliance with the wishes of your correspondents, occasionally introduced them, you will, I am sure, pardon me for adding a few concise observations.

Clericus has alluded to the Act of the 2d and 3d Edward VI. c. 13. What were then called personal tithes, rest upon the 7th and 8th section of that statute. The 8th is a sort of pleonasm; I shall therefore omit it. The former is couched in

*Ag. Mag. Vol. 10.*

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the following terms. " And be it further enacted, by the authority aforesaid, that every person exercising merchandizes, bargaining and selling, cloathing, handicraft, or other art or faculty, being such kind of persons, and in such places, and heretofore within these forty years, have accustomably used to pay such personal tithes, or of right ought to pay, (other than such as have been common day-labourers) shall yearly, at or before the first day of Easter, pay for his personal tithes, the tenth part of his clear gains; his charges and expences, according to his estate, condition, or degree, to be therein abated, allowed, and deducted."

Such is the parliamentary foundation on which this demand of Clericus and his sable fraternity is supported. It is of the nature of a declaratory law, and it will become your correspondent to attend to the construction on this Act, before he trusts to the weapon which he says the laws of his country has, on the most obvious principles of state policy, confided to his hands.

In the first place, declaratory laws impose no new restraints, establish no new regulations, but to prevent licence being substituted for law in *perpetuum rei testimonium*, announce what is, and shall be the law of the land, and remove the doubts and difficulties attending the explanation of the designs of the legislature.

The 2d and 3d of Edward VI. does not allow the Ordinary to examine the parishioner on oath, with respect to these personal tithes.

It has been determined, that an inn-keeper is not chargeable for such tithes in regard to the profit made by the sale of wine and beer; nor any person for the gain of money put out to interest. A copper-mill, a fulling-mill, a shaving-mill, and a glass-house, &c. pay no tithes, on the ground that the profits arise from the mere labour and industry applied in these undertakings. What is fatal to the pretensions of Clericus is, that on the same principle, the profits of every manufacture have been held not to be titheable; and thus all his aerial castles, with grand portals decorated with the sacerdotal arms, and crowned with the episcopal mitre, vanish from his view.

But before he relies for defence on this favourite weapon, let him also recollect the terms of the 7th section of the statute he has adverted to, whereby the payment of this distinction of tithes is *confined to such persons and places, by whom and in which the same have been accustomably used*, and ought to have been paid. Clericus should not be ignorant on this critical point, that it has been judicially determined, these are not due of common right like predial tithes, but where

they have not been usually paid they are not to be levied.\*

What is most important for the notice of Clericus is, that he should consult his Diocesan, before, in the name of the sacred order, he ventures to proclaim a right which has been for centuries abandoned as untenable. It has been long considered as neither founded in law, justice, or policy; and if a few of his brethren were to be guilty of the same imprudence, and adopt the same extensive means he has resorted to of circulating the pretension, they would more rapidly conduce to the abrogation of all tithes, than the whole herd of discontented and querulous cultivators. I will conclude with referring to the language of Lyndwood. "Sic dictæ quia potius respectu personæ solvuntur quam rei, utpotè de artificio, negotiatione, et militiâ."

I am, Sir, yours, &c.

April 7, 1804.

AGRICOLA MERIDIONALIS.

• Bun. 73. 2 Rol 24. 1 Rol 405. 3 Bul 212.

## METHOD OF PREPARING VINEGAR FROM THE REFUSE OF BEE-HIVES.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last volume, page 256, you were kind enough to insert a paper I sent you on the Economy of Bees, wherein I said, that information on this subject was to be collected most advantageously "from the practice and experiments of learned foreigners, who have improved their knowledge of the economy of this insect by consulting the theories of Reaumur, Schirach, De Tigny, and the celebrated naturalists of Geneva." To the instruction of M. Lombard, in the Bibliothèque Physico-Economique, I am indebted for the following method of making vinegar with the refuse of bee-hives.

When the honey is extracted from the combs by means of pressure, take the whole mass, break and separate it, and into each tub or vessel put one part of combs and two of water; place them in the sun, if the rays possess sufficient power, or in a warm place, and cover them with cloths. Fermentation takes place in a few days, and continues eight or twelve days, according to the higher or lower temperature of the situation in which the operation is performed. During the fermentation, stir the matter from time to time, and press it down with the hands, that it may be perfectly soaked. When the fermentation is over, put the mass to strain upon sieves or strainers. At the bottom of the vessels will be found a yellow liquor, which must be thrown away, because it would

soon contract a disagreeable smell, which it would communicate to the vinegar. Then wash the tubs, put into them the water separated from the other matter; it immediately begins to turn sour; then the tubs must again be covered with cloths, and kept moderately warm. A pellicle or skin is formed on their surface, beneath which the vinegar acquires strength; in a month's time it begins to be sharp; it must be left standing a little longer, and then put into a cask, of which the bung-hole is left open, and it may then be used like any other vinegar.

*Lewis,*

*April 12, 1804:*

I am, Sir, yours,

COLONUS.

ANSWER TO VETERINARIUS ALTER, ON AGRICULTURE AS CONNECTED WITH CHEMISTRY, THE CARBONIC PABULUM, AND ON THE FRENCH, ENGLISH, AND DUTCH SCHOOLS.

*To the Editor of the Agricultural Magazine.*

SIR,

VETERINARIUS ALTER, whom I, to avoid the "more stately tone," shall abbreviate to V. A. has written a letter with great spirit and good humour, in answer to two of mine which appeared in Nos. 53 and 54 of your publication. He begins with saying, on the authority of a French chemist in the *Annales de Chimie*: "That it is out of the power of chemistry, in its present state, to confer any new or practical benefits on Agriculture." This is one of the boldest assertions that any of your correspondents have ventured to introduce into your work; and V. A. referring to a desultory production in 50 volumes, has not condescended to give us the article by which it is supported. Is he ignorant of a recent production of Lord Dundonald, professedly written to shew the connection between these two arts? Is he unacquainted with the periodical pieces of the highest merit teeming from the French press, which demonstrate the closest alliance? Are the numerous papers in your Miscellany, with which he corresponds, entirely to escape his observation, the labour of which is to expose this important fact: that Agriculture is founded on the principles of the Chemical art, and that without its assistance, the country would revert to that barbarism and infertility, which prevails in the regions of Louisiana!

Surrounded, Sir, as we are by this cloud of witnesses, shall I select a single fact to maintain the converse of his position? Shall I not rather appeal to the history of science in Europe, to the enquiries of all the learned philosophers and naturalists of Germany, France, and Britain, to oppose this hardy assertion? If it be true, the pages of your work are replete with

absurdity, you, Mr. Editor, must recur to your horn-book, you must retrace the steps you have taken through life, and commit your library to a similar conflagration to which that of the hero of *La Mancha* was exposed.

V. A. proceeds: "The carbonic matter, it seems, was unknown to Bergmann; but there was nothing on earth to prevent his grandfather from knowing it, excepting its new name. But what if otherwise? Has Hassenfratz *proved* it the food of plants? Not to me. The world never has, probably never will, profit by experience."

The ease and freedom of this gentleman's style will be some apology for me, if I treat him with the same familiarity, and converse with him in my night-gown, without the parade of the flowing perruque, polished sword, and amber-headed cane of the profession. With some writers, the leading object is, to excite surprise, and they attain success in this endeavour, by contradicting those fundamental truths which the universal consent of mankind has established. The concluding sentence of this quotation is of that kind, and I believe all your readers will concur with me when I affirm the exact reverse. The world ever has, probably ever will, profit by experience, and experience is the only master by which it will condescend to be instructed.

V. A. alludes to the pneumatic medicine, and I am therefore to presume, he is not uninformed on the modern system of pneumatic philosophy. The British parent of this system, is now a wanderer and an exile in the wilds of America;\* the French patron fell beneath the axe of the revolution. It is in consequence of their discoveries, that carbon was correctly analyzed; and my "grandfather," and all his predecessors, were as ignorant, both of the name and the thing as a vegetable food, as they were of the new veterinary fraternity.

In answer to my observation in favour of the French school, V. A. says, that the veterinary art may be more successfully acquired "from the principles and practice of two or three of our best writers, the disciples of Boerhaave, whom they did not disgrace, and whose merits the lectures of modern professors have not been able to obscure." And he proceeds, "Any veterinary professor or lecturer professing a moderate previous share of knowledge, would easily, and without any great exertions of genius, have been able on such base, to have founded an English veterinary course."

It is curious to observe, how persons of considerable acumen, in the heat of argument, and foaming with the violent spirit of disputation, expose themselves unguarded, in the endeavour to assail their adversary. It will appear singular to

\* Since this article was sent to the press, the melancholy intelligence of the death of Dr. Priestley has arrived in Europe. E.

your readers, that while this medical gentleman is waving his magic wand over the map of science, and pointing to England as the fit centre of the veterinary art, he refers for its origin to a Dutch professor, and instead of distinguishing for our notice any ray of genius which emanated from that centre, he for a moment forsakes the bogs of Holland, and states it as a *mere possibility*, that the disciples of Boerhaave, who have alternately partaken of his gin and physic in those morasses, *might have founded* an English veterinary course.

I am sure, Sir, I should deviate from the general design of your work, if I were to enter into a comparison of the ancient and modern pharmacopœia. Your correspondent, V. A. is in the daily habit, unavoidably from the duties of his profession, of employing the latter; I am, therefore, astonished at the preference he has assigned the other. Perhaps in the Medical Journal, I might have made some observations on his tutty and the viper's fat with which it is commixed, in his favourite systems and nomenclatures, and shew why I consider the substitution of simple liniment of oil and wax preferable; but here, only, by the one, I would intimate the smoothness and urbanity with which all literary controversy should be conducted; and by the other, the close adhesion to those principles which are essential to public utility and happiness.

I shall not conclude without returning thanks to V. A. for his frequent and familiar reference to my honoured grandam, to whom I acknowledge myself indebted, both for the better and for the major part of my education: he will permit me to remind him of the admonition on this subject of one of the best and wisest of mankind, for the language of which I need make no apology to a student in the school of Hippocrates.

"Τὴς το γυναικὸς τιμῇ, τὴς τ' ἀρχῆς ἐκγεγυῖας."

Warwick-Lane,  
April 3, 1804.

I am, Sir, yours, &c.  
LUCAS MEDICUS.

## THE ART OF HATCHING DOMESTIC FOWLS BY MEANS OF ARTIFICIAL HEAT.

*To the Editor of the Agricultural Magazine.*

SIR,

**N**OTHING can be more just, than an observation I have met with somewhere in your Miscellany, on the gross and palpable neglect of natural history in this country. In my letter which you were kind enough to introduce, page 33, of your present volume, I adverted to a subject of this kind, and I will now refer to a paper of an ingenious Frenchman, Monsieur Reaumur, which, as early as the year 1749, was submitted to the attention of the members of the Academy of Sciences at Paris. The contents of this do-

cument will shew the patient and laborious attention which that naturalist paid to a curious and useful subject of enquiry, that has been despised in this country.

Bermè, in the Delta, is about 20 leagues distant from Cairo in Egypt: the method of hatching and cherishing domestic fowls, by means of an artificial heat, has there for centuries been understood and practised. For this purpose they have contrived ovens which are capable of containing from 40,000 to 80,000 eggs. The number of these in the middle of the last century, was 386, and the time of working them about six months, so that at 20 days for each brood, they might have eight broods, and from the whole 386 ovens, 3,088 broods. The attendant is only required to give two-thirds in live chickens from the eggs with which he is supplied; so that each brood may be taken at 30,000 birds, and of course the annual produce of the ovens at 92,642,000.

What seems most necessary, in order to transfer this art into Europe, is to procure the proper heat to operate on the vital principle of the egg. All birds, and even all quadrupeds, have nearly the same degree of skin-heat, viz. about 32 of Reaumur, or 96 of Fahrenheit's thermometer. This being ascertained, we have only with caution to apply it, and the consequence is so beneficial in Egypt, according to Sicard, that this wholesome and valuable sustenance may be acquired for almost nothing: a thousand eggs may be obtained at 2s. 6d. of our money. In this country, some of our hens are not inclined to set every year; and many that are, are thus disposed at inconvenient seasons. The time a hen is so employed, and afterwards engaged in attending on her chickens, consumes a period of three months. These are serious impediments to the multiplication of the species of this valuable domestic animal. But the fastidious observer may say, that this scheme is perverting the designs of nature, and that man always frustrates his own wishes when he disappoints her evident intentions. Such is not a correct view. We should be very indifferently provided with wines, fruits, and those herbs which seem necessary to human subsistence, if we were to leave nature unassisted by the ingenious expedients of art. Man has diffused a garden over the waste, and what is applicable to vegetable, is not less applicable to animal life.

Pliny relates, that the Empress Livia hatched a chicken in her bosom; and the story is familiar to many, of a lady who gave existence to the eggs of a Goldfinch, after imparting vital heat in the same way for a period of ten days.

The vapour constantly exhaling from dung interferes with the hatching, although the heat be preserved by the assistance of the thermometer, with the utmost correctness. M. Reaumur, for a long time, did not discover this impediment:



at last he introduced his eggs into a cask, and the obstruction was removed. The cask should be lined with tin, but even plaister, or thick paper, will, for a considerable time, prevent the ingress of the steam. The vessels he employed were half hogsheads, and the dung of horses, cows, or sheep, were found equally effectual, even heaps of weeds thrown into the corner of the garden, were frequently found to possess a sufficient degree of heat. The thermometer is an instrument of too delicate a kind for the hands, eyes, or knowledge of rustics: a lump of butter, therefore, of the size of a walnut, melted with half as much tallow, put into a small glass phial, will answer the purpose equally well. If the heat be too great, the mixture will become as liquid as oil: if too small, it will remain in a motionless mass, but if the bed be of the right heat, this unctuous matter, upon inclining the phial, will pass downward like thick syrup.

For convenience, the eggs may be put into the casks in baskets, to the quantity of 150 in each basket, and two of these may be inclosed in the half-hogshead.

If it be necessary to diminish the heat, some of the surrounding dung or bed may be withdrawn; if to be increased, a layer or more of fresh dung may be applied.

We never act with greater security in these delicate operations copied from nature, than when we as closely as possible imitate her own proceedings. It is obvious, that in a nest the external eggs do not receive so much warmth as the interior. The hen seems sensible of this circumstance, and changes the position of her eggs. M. Reaumur made himself accurately acquainted with this expedient, by numbering the eggs in the nest under his birds, and from this he took the hint of changing the position of the eggs in his baskets so as to impart to them all, during the process, an equable heat. Yet it is not found necessary to accommodate this with an extreme degree of exactness: as hens of different sizes, and of various constitutions, impart more or less heat, so a deviation of from 30 to 34 degrees in the thermometer of Reaumur, was found not to be material.

On this curious subject, even the evaporation from the egg, during its progress toward vitality has been correctly determined, and it is found to have lost one-fifth part of its weight by the time the chick is ready to emerge from its prison. Cover the shell with a varnish, so as to prevent evaporation, and the embryo is never formed; and this explains why the steam from the dunghill prevented the extrication of the animal, for the evaporation necessary to its existence could not take place. So, likewise, if eggs be put in water and the temperature of the liquid, be carefully preserved, the germs of the eggs will never be at all unfolded. The cry of the chickens

may be distinctly heard before we perceive the least aperture in the shell, which proves that they begin to breathe prior to the shell being opened. For these reasons, a free circulation must be kept up, and we must not even admit the moisture from the eggs themselves to interfere with the progress. The hen, when she leaves her nest to take nourishment, instead of obstructing, promotes the multiplication of the species. The air in the nest is in a state of stagnation; it is loaded with vapours from her body, as well as from the humidity of the eggs themselves, but this unwholesome atmosphere is dissipated, and a purer one is supplied during her short absence. Let good housewives recollect then, that when they are administering food to their favourites on the nest, they are interfering with their own designs, and with the purposes of nature.

Such are the observations which, with the assistance of the ingenious naturalist I have named, I have been enabled to lay before your readers: my own experience is not inconsiderable, and I am happy to find it confirmed from such high authority. It will, however, be of little consequence to discover what expedients ingenuity may contrive for hatching domestic birds, if, after life be so given them, we are incapable of preserving it by adopting a method of rearing these orphans in a way suited to their tender constitutions. This, Sir, will be the subject of my next letter, if I may be permitted to infer your concurrence from the insertion of the present communication. I will conclude this paper with the description of the first formation of the little animal.

The chicken is almost a round ball as it lies in its shell, the neck bent and disposed along the belly, and the bill is turned under the wing, as we often see in birds asleep. The chicken, however, in this situation, is to break its shell, and this it performs by strokes of the bill; the first effect of these strokes is, a small crack, for the most part between the middle of the egg and the bigger end; the fore part of the chicken points to that end, and the hind part towards the lesser. The chicken then, by striking the shell with its bill, insensibly turns itself about from the right to the left, and is, accordingly, always turning from right to left, so that it prolongs the crack first made in the shell, till it extends almost quite round the periphery of the circle the bill has described; and it is commonly the work of near half a day for a chicken to extricate itself from its shell. To get out, it pushes its body forward with its feet, and thus it forces the anterior part of the shell to rise up, and so completes the breaking away the shivers that connect that half shell with the inferior one. When it has thus gotten almost out, it draws its head from under the

Wing where it had till then remained; it next extends its neck, but is still frequently several minutes attempting before it has strength to raise itself; by little and little, it seems to grow stronger; and when it has, for a while, dragged its legs after it, it at last becomes able to stand upon them, to stretch out and extend its neck, and carry its head erect.

London,  
March 30, 1804.

I am, Sir, yours, &c.

AFRICANUS.

## THE PRESENT STATE OF HUSBANDRY IN BENGAL.

*To the Editor of the Agricultural Magazine.*

SIR,

THE subsequent account of the state of husbandry in Bengal, is by a gentleman who, I understand, is now residing in that country, and whose intimate and minute acquaintance with its whole internal affairs and political economy, as well as his profound knowledge of the laws and literature of the Hindoos, give great weight to his opinions.

It will equally astonish and mortify your readers to observe, that in a country the most remote; which we have hitherto considered as wild and barbarous, the farming, in some respects, exceeds the practice attained in several of our own counties; and if the sense of humiliation should be excited in one single individual, so as to awaken the spirit of improvement, the object for which this paper is pressed upon your attention will not be wholly disappointed.

The regular succession of periodical rains, followed by a mild winter, which exempt from frost, is almost as free from rain; and this, succeeded by great heat, refreshed occasionally by showers of rain and hail, affords its proper season for every production of tropical and temperate climates. Few are altogether unknown in Bengal. Those which actually engage the industry of the husbandmen are numerous and varied. Of these, rice is the most important. Corn, in every country, is the first object of agriculture, as the principal food of the inhabitants; in this, where animal food is seldom used, it is especially important.

The natural seasons of rice are ascertained from the progress of wild rice. It sows itself in the first month of the winter; vegetates with the early moisture at the approach of the rains, ripens during that period, and drops its seed with the commencement of the winter.

A culture calculated to conform to this progress is practiced in some districts. The rice is sown in low situations when nearly desiccated; the soil hardening above the seed, gives

no passage to early showers. The grain vegetates at the approach of the rains, and ripens in that season, earlier or later, according as the field is overflowed to a less or greater depth.

This method is bad, as it exposes the seed to injury during a long period, in which it should remain inert; the practice is not frequent. Common husbandry sows the rice at the season when it should naturally vegetate, to gather a crop in the rains; it also withholds seed till the second month of that season, and reaps the harvest in the beginning of winter; and the rice of this harvest is esteemed the best, not being liable to early decay.

In low situations, where the progress of desiccation is slow, and on the shelving banks of lakes which retain moisture till the return of the rains, a singular cultivation sows rice at the end of the rains, and by frequent transplanting and irrigation, forces it to maturity in the hot season; and in situations nearly similar, sows in the cold season for an early harvest, obtained by a similar method at the commencement of the rains.

In almost every plant, the culture, in proportion as it is more generally diffused, induces numerous varieties. But the several seasons of cultivation, added to the influence of soil and climate, have multiplied the different species of rice to an endless variety, branching from the first obvious distinction of awned and awnless rice. The several species and diversities variously adapted to every circumstance of soil, climate, and season, might exercise the judgment of sagacious cultivators: the selection of the most suitable kinds is not neglected by the husbandman. There is room, however, for great improvement from the future light to be thrown on this subject by the observations of enlightened farmers.

Other corn is more limited in its varieties and its culture. Of wheat and barley few sorts are distinguished. All sown at the commencement of the winter, and reaped at the beginning of the hot season.

A great variety of different sorts of pulse finds its place in the occupations of husbandry. No season is without its appropriate species: but most sorts are sown, or ripen in the winter. They constitute a valuable article in husbandry, as thriving on the poorest soils, and requiring little culture.

Millet and other small grains, though bearing a very low price, as the food of the poorest classes, are not unimportant: several of these grains, restricted to no season, and vegetating rapidly, are useful, as they occupy an interval after a tardy harvest, which would not permit the usual course of husbandry. Maize, which may be placed in this second

class of corn, is less cultivated in Bengal than in most countries where it is acclimated. For common food, inferior to white corn, it has not a preference above millet to compensate the greater labour of its culture.

The universal and vast consumption of vegetable oils is supplied by the extensive cultivation of mustard, linseed, sesame, palma-christi, &c. The first occupy the winter season, the sesame ripens in the rains.

Among the most important of the productions of Bengal, rich in proportion to the land they occupy, valuable in commerce and manufactures, are tobacco, sugar, indigo, cotton, mulberry, and poppy.

Most of these require land solely appropriated to the respective culture of each; they would here deserve full notice, with some other articles, if I were not in this place limited to a general review of the usual course of husbandry, and the implements and methods it employs.

The arts and habits of one country elucidate those of another. The native of the North, may deem every thing novel in India; but if he has visited the Southern kingdoms of Europe, he will find much similarity to notice.

The plough, the spade of Bengal, and the coarse substitute for the harrow, will remind him of similar implements in Spain. Cattle treading out the corn from the ear, will recall the same practice in the South of Europe; where also he has already remarked the want of barns and inclosures, the disuse of horses for the plough, the business of domestic economy conducted in the open air, and the dairy supplied by the milk of buffaloes.

The plough is drawn by a single yoke of oxen, guided by the ploughman himself. Two or three pair of oxen assigned to each plough, relieve each other until the daily task be completed. Several ploughs in succession deepen the same furrows, or rather scratch the surface; for the plough wants a contrivance for turning the earth, and the share has neither width nor depth to stir a new soil. A second ploughing crosses the first, and a third is sometimes given diagonally to the preceding. These operations frequently repeated, and followed by the substitute for the harrow, pulverise the surface, and prepare it for the reception of the seed. The field must be watched for several days to defend the seed from the depredations of numerous flocks of birds. This is commonly the occupation of children.

After the plant has risen, the rapid growth of the weeds demands frequent attention, particularly in the rainy season. For few indigenous herbs vegetating in the dry season, weeding is little if at all required for plants which are cultivated in

the absence of rain. Viewing the labours of the weeders, the eye is not easily reconciled to see them sitting to their work. The short-handed spud which they use for a hoe, permits no other posture : but however familiar that position may be to the Indian, his labour is not employed to advantage in this mode of weeding.

The hook (for the scythe is unknown) reaps every harvest. In this also much unnecessary labour is employed, not merely from the want of a more expeditious implement, but from the practice of selecting the ripest plants, which taught by the harvest of different plants ripening successively, the Indian extends to the harvest of a simple crop. Yet, such are the contradictions of custom, that, while the peasant returns frequently to one field to gather the plants as they ripen, he suffers another to stand long after the greatest part of the crop has passed maturity. He justifies his practice upon circumstances which render it impracticable to enter these fields to select the ripe plants without damaging the rest ; and upon the inferiority of crops which mix with ripe corn, a considerable proportion not fully ripened. Though his excuse be not groundless, his loss is considerable by the grain which drops before the harvest in so great a quantity, that if the field remain unsown, it will supply a produce by no means contemptible.\*

The practice of stacking corn, intended to be reserved for seed, or for a late sale, is very unusual, the husk which covers rice preserves it so perfectly, that, for this grain, the practice would be superfluous, and the management of rice serving for the type of their whole husbandry, it is neglected by the peasants for other corn. A careless stack which waits the peasant's leisure to thrash it out, serves for a convenient disposition, rather than as a defence from the inclemencies of the weather. With the first opportunity, his cattle tread out the corn, or his staff thrashes the smaller seeds. The grain is winnowed in the wind, and stored in jars of unbaked earth, in baskets, or in twisted grass, formed into the shape of baskets.

The want of roads, which indeed could not possibly be provided to give access to every field in every season, does not leave it in the option of the farmer to bring home all his harvests by cattle ; but the general disuse of cattle in circumstances which would permit this mode of transport, is among

\* Of this instances are frequent ; the remarkable result of one deserves to be mentioned. An early inundation covered a very extensive tract, before the rice had been sown : the landlord remitted the rent, but claimed the spontaneous crop, and he profitted by the accommodation, realizing from this harvest a greater amount than the rent he remitted, although, in addition to the common expences, he was at considerable cost to watch the crop, and was probably defrauded of a large proportion of the harvest.

the facts which show a great disproportion between the population and the husbandry.

Irrigation is less neglected than facility of transport. In the management of forced rice, dams retain the water on extensive plains, or reserve it in lakes to water lower lands as occasion requires. For either purpose, much skill is exerted in regulating the supplies of water. For the same culture, ridges surrounding the field retain water raised by the simple contrivance of a curved canoe swinging from a pole. In other situations ridges are also raised round the field both to separate lands, and to regulate the water on considerable tracts. In some provinces, water raised by cattle or by hand, from wells, supply the deficiencies of rain. Each of these being within their compass, is the undertaking of the peasants themselves. More considerable works, not less necessary, are much neglected. Reservoirs, water-courses, and ditches, are more generally in a progress of decay than improvement.

*(To be continued.)*

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## ON THE AGRICULTURE OF THE COUNTY OF CORNWALL.

*To the Editor of the Agricultural Magazine.*

SIR,

THE letter from your valuable contributor, P. J. introduced into your last number, commences with the following observation. "Though Chorographus has given your very intelligent correspondent Agricola Nolfolciensis and me, a sort of challenge, I do not know that I should have made any remarks on his communication in your last Number, 53, had he not professed himself ashamed to speak of our Norfolk commons."

I can assure P. J. with perfect sincerity, while I am taking leave of his province, that Chorographus is utterly indifferent what motives induce your correspondents in the several counties of England, to make their comments on his crude and hasty disquisitions. All he wishes is, to attract their attention, and to excite their energies, so that his redundancies may be curtailed, and his deficiencies supplied. This has been the fortunate effect with respect to his remarks on Norfolk husbandry, and the latest information has been drawn from the talents of P. J. on some improvements of those districts which are excelled in the knowledge and practice of Agriculture in no part of the civilized world. With this single remark, I shall dismiss my strictures on P. J. although if I were writing for the Gospel instead of the Agricultural Magazine, of Mr. V. Griffiths, I might make some cursory observations on the "athletic sport of *camping*," and the exhibition of

blooming rural beauties on the occasion of that amusement, on the Sunday evening, around the "small neat commons" of the county\*.

Three definitions have been given of Agriculture. The first is confined to the art of tilling and cultivating the earth; the second comprehends, not only feeding and the management of cattle, but even the rural sports; the third includes a yet wider scope of enquiry, and admits mines, and other subterraneous phenomena. The subject I have selected for the present letter, requires me to avail myself of the most extensive definition.

The western peninsula of England, denominated Cornwall, is the subject of this communication. This country and Devon were anciently called *Dunmonium*, from the tin mines with which they abound. Cornwall is joined to the main land by an isthmus of forty three miles in breadth, and the extreme length from Morwinstow to the Land's End, is seventy-eight miles and a half. An accurate estimate has been made of the number of acres, which have been found to be 758,484. Here nature has done a great deal, and man very little. Cultivation has only been attempted, generally speaking, on the shores of the sea, and in the vicinity of the larger rivers, the Faland, the Tamar, the Fawy, the Alan, &c.: the interior, is cultivated in patches, which are surrounded by the works of the miners, and districts of barbarian wildness, where the inhabitants seem to partake of the

\* From my travels both in foreign countries and my own, I have been obliged to entertain very different sentiments from those which P. J. seems disposed to indulge on the manners of a country life; and I beg leave to refer him to the compositions of the poet Crabbe, if from his name and turn of thought, he be not too sour for the digestion of your Norfolk correspondent.

" Yet why, you ask, these humble crimes relate?  
Why make the poor as guilty as the great?  
To show the great, those mightier sons of pride,  
How near in vice, the lowest are allied.  
Such are their natures, and their passions such,  
But these disguise too little, those too much:  
So shall the man of power and pleasure see,  
In his own slave, as vile a wretch as he;  
In his luxuriant lord, the servant find,  
His own low pleasures anti-degenerate mind:  
And each in all the kindred vices trace  
Of a poor, blind, bewilder'd, erring race;  
Who, a short time in varied fortune past,  
Die and are equal in the dust at last.  
And you, ye poor, who still lament your fate,  
Forbear to envy those you reckon great;  
And know, amid those blessings they possess,  
They are, like you, the victims of distress."



savage character of the country. It is, however, consolatory to notice, that the more inland countries contain veins of rich marle, loams, and clay, which under the present improvement in the science of Agriculture, would ameliorate the poorer soils, and is capable of diffusing fertility and abundance in the most unfriendly portions of this territory.

The real cause why pure Agriculture has been discouraged, is, because the mines afford the more sudden means of acquiring a fortune, than the slow, but certain expedients of Agriculture; yet the number of persons employed in these mines, have this beneficial effect, that a constant market is provided for the growth of the field, so that great and luxurious cities are not necessary to consume its produce.

The mines are either of tin, copper, or lead. The strata in which they are found diverge from the Land's End in an eastern direction, and entering Devonshire, they proceed to the remote extremity of the Dartmoor Hills. This range forms the high ground in the middle of the country, and the strata in which the ores are found consist of the schistus and of granite. The chief emporium of the mining trade at present lies from St. Austle to the western extremity. The principal mines, extend along the northern coast, keeping pretty uniformly the breadth of seven miles. Polgooth, the most considerable of the tin mines, produced on an average, for eight or nine years prior to 1794, about 2,500 blocks annually. Near Penzance, is a tin mine worked under the sea. Even the shafts, through which the miners descend, are nearly one hundred yards below high water mark. The necessity of attending to the embankment, and the danger to which the miners would be exposed by negligence in this particular, must forcibly impress the minds of your readers. The impure, and commixed state in which the ores are extracted, is well known. All tin ores, are (in the provincial phrase) reduced into metal in the county, and formed into blocks of 2cwt. 2qrs. or 3cwt. 3qrs. These are marked with the arms of the Duchy; and the Prince of Wales in his character, as Duke of Cornwall, receives 4s. for each hundred weight. The total produce of tin, for several years prior to 1792, has been 22,000 blocks, on an average, per year, which, at the price of ten guineas, will amount to 331,000*l*. A very small quantity of native gold has been found intermixed in the mines of this ore.

Of the copper mines, perhaps a tolerably fair estimate may be given by stating the produce at 40,000 tons weight which of pure copper yield about 4,700 tons.

The lead mines are now very little worked; they are principally situated in the neighbourhood of Hull Pool and Hull

Rose near Helstone, and some have been found to contain no inconsiderable portion of silver. A few iron mines are dispersed in the country; and at Endilion is a productive mine of antimony.

The miners have much better wages than the labourers in agriculture, and the competence resulting from this occasions early marriages and large families. On a narrow slip of barren country, where a very few hands would be required for the purposes of farming, a population to the reach of fifty or sixty thousand is supported, exclusively of the merchants, tradesmen, and artificers, which occupy Penzance, Redruth, Falmouth, Penryn, Truro, and St. Austle.

Every change in the condition of the miners of Cornwall, from the competition of Wales, must be severely felt by the farmers, for as I have hinted, the agriculture depends upon the markets, the markets upon the population, and the population on the state of the mines. Some instances of remarkable success might be adduced. Hull Virgin, in Guenap, in five weeks, threw up copper to the value of more than 15,000*l*; and the expence of labour very little exceeded 200*l*. in that period: yet there are many more blanks than prizes in this lottery of human affairs.

It would, Sir, be inconsistent with the nature and design of your work, were I to enter into more of these particulars, on which the fortune-hunter and the mineralogist would, perhaps, be equally inquisitive. You will, I fear, have thought it high time that I should proceed to those subjects which are comprized within the more narrow definition of agriculture.

Through the higher lands of this country, the superficial soil is a light black earth. On the tops and sides of mountains, it is very shallow, and the natural produce is a thin stunted heath. The second stratum is a cubical quartz; and the sub-soil, is a whitish or yellowish loamy clay. Happily, by mixing these three strata, a soil is capable of being formed, suited to the growth of every species of grain. It is very desirable, that the miners should be encouraged to pursue this rational scheme of improvement on these grounds: their subterranean employment only occupies six or seven hours, they have, therefore, much leisure time, which cannot be more advantageously employed than in this direction of their natural industry.

In the vales adjacent to these high lands, are bogs, vulgarly called moors, that contain the rich sediment from the mountainous parts, which might be converted into valuable meadows. The observation does not rest on conjecture, Mr. Præd, of Travethoe, has adopted these improvements on a large scale, which will in time receive

the attention, and attract the admiration of the adjacent country.

Besides the above, there is a shelly or slatey soil, which is composed of the detritus of the softer species of schistus, and a great part of the county has soil of this kind. It produces good wheat and barley, and at Clowance, the seat of Sir John St. Aubin, it has been found to make a useful compost, when combined with the viscous earths. In the district skirting Bodmyn Downs, and extending to the banks of the Tamar, this species of soil prevails, mixed with strata of reddish and hazle loams; and it is found very fertile, particularly as they are able to assist it by procuring lime from Plymouth, a facility they do not enjoy in the northern parts. The north, however, on the banks of the Alan and Camel, towards Padslow, and to the north-east toward Lanteglos, is justly esteemed the granary of Cornwall. A very rich tract of land may be discovered from Tregothan, the seat of Lord Falmouth; and Trewithen, the estate of Sir Cæsar Hawkins. Another on the river Hel, of the same character, will not escape the attention of the intelligent traveller.

The climate of Cornwall is mild, it is cooler in summer, and warmer in winter, than most other parts of England. Ice is so unusual in the latter season, that the refectories of the luxurious are often unsupplied for many successive years with this dainty of the epicure. Cornwall, from its situation, being open to the Atlantic, without the intervention of land to the coast of America, receives the whole force of the south-westerly winds, which have been observed to continue in England during four-fifths of the year. Hence it is difficult for plantations to thrive in exposed situations, but myrtles and many other plants, which in most districts are seldom seen out of the green-house, flourish here in the open air.

Every student in English history is informed of the Duchy of this county, conferred on Edward the Black Prince, with limitation afterwards to the first begotten sons and heirs apparent of the British Monarch. Hence has arisen a peculiarity in the tenures, which is more suited to discussion with the archæiologist than with the farmer. Passing over this subject, therefore, I shall only notice, that few private gentlemen possess a landed rental in this county of more than 3,000*l.* Some of your opulent correspondents will smile, when I assert, that 10*l.* or 15*l.* a year is an ordinary rent for a farm; and that 40*l.* a year is deemed a large interest. The leases are generally on lives: in the mining districts, they are mere cottage holdings, but some concerns of unusual magnitude, extend to 100*l.* and even to 200*l.* a year. What would these petty farmers think of the tenants of the Pelham

family in Sussex, twelve of whom pay annually 1,000l. a year each for the land they occupy.

Until the latter part of the reign of Elizabeth, the art of farming was unpractised and unknown in this county. The graziers of Devon and Somerset drove their beasts to the huts of these subterraneous savages, and supplied the people with the cattle thus fattened at their own doors. It will not, therefore, appear wonderful, that the improvements in agriculture should not have been so rapid as in other situations; but it is, perhaps, unaccountable, that the produce is at this time inferior to what it was when Camden, the famous Cornish antiquary, flourished. Perhaps the easiest way to resolve this difficulty, is by supposing some error in the account he has given, as he could not obtain the same assistance we now derive from political arithmetic and statistical disquisition.

The rotation of crops deserves little attention. Wheat is succeeded by barley or oats, as long as the land will bear grain: seeds are sown with the latter when it will sustain it no longer; and in grass it continues, according to the degree of its fertility, for five, six, eight, or ten years. For the wheat, they pare and burn the surface; the land is then dressed with the ashes, and a compost of sea-sand, earths, and road-drift. To this they throw straw, to collect the soil and moisture; and they add dung obtained from the farm-yard, or from the adjacent towns. When the land, from negligence or avarice, is urged too far by the corn-crops, it is reduced to a dry gritty substance, and is abandoned to furze and brambles for five and twenty or thirty years. The best farmers only take one crop of barley or oats, and then they lay the land down with grass-seeds, dressing it with dung and earth; and after three or four years it may be broken up again with considerable advantage. By cultivators of this description, turnips are often sown after wheat: these are manured as before noticed, and are succeeded by barley and grass-seeds. It is amusing to observe, into what gross mistakes some of your new, hot-headed projectors have fallen. Paring and burning, which is so often mentioned as a new discovery, has been long practised in Cornwall, and for 300 years has been the common expedient in the neighbouring county. I beg Mr. Editor, that when Katterfelto, and other wonder-working correspondents, shall offer to amuse us in your miscellany with these *discoveries*, you will have the goodness to exercise your wonted discretion, and reject their communications.

The farming implements in this county are of the most ponderous kind; and I am sorry to say, that Sir John St. Aubin, and even Mr. Praed, have conduced to this error. The former has an enormous plough, to which fourteen oxen and seven horses are attached, suited to the employment to

which the Roman Emperor devoted an instrument of this kind in the streets of Jerusalem. With this he mercilessly enters the bowels of the earth, to the depth of twenty or twenty two inches; and sometimes leaves her lacerated form unfit for the purposes of vegetation. The strong plough of Mr. Praed, is designed to throw on the surface the quartz stones of the sub-soil. Whenever it is necessary to exercise this sort of instrumental violence, the end would be much more conveniently attained by two operations, performed with different implements, and such is the method resorted to by the miners in the cultivation of their little crofts. Mr. Grosette, near Truro, has introduced the Yorkshire shim, which throws up the wood, and levels the ground with great expedition. Carts are neither used here, or in the neighbouring county for the purposes of agriculture; the manure and the produce is conveyed on the backs of mules and horses.

With respect to manures, I have already intimated, that from Plymouth lime may be conveyed to all convenient distances: this they burn with culm from Wales, as a preparation for wheat. But the manure which is peculiar to this county, is of a most excellent kind. It is a compost of sea-sand, bruised and decayed pilchards, and of bay-salt condemned by the officers as unfit for use. This, therefore, consists of salt, putrified fish and oil, and is sold to the farmers on very reasonable terms. After a dressing from this compost, ninety Winchester bushels of barley per acre, has frequently been produced; and seventy-five bushels is considered an ordinary crop.

I had, Sir, intended to make some further observations on potatoes, turnips, and many other articles of occasional produce in this county, but in the hope that some of your Cornish friends, who are better acquainted with the farming of particular districts than I can be, will afford information on these articles, I shall here conclude my observations.

I am, Sir, yours, &c.

April 12, 1804.

CHOROGRAPHUS.

## ON COWS AND MILK IN THE VICINITY OF THE BRITISH METROPOLIS.

*To the Editor of the Agricultural Magazine.*

SIR,

THE writer in your last Number, on the Agriculture of Westmoreland, makes a remark, *en passant*, on the London cow-keepers, which is not perfectly correct. I am sure, from the love of accurate information he possesses, he will not only excuse, but be thankful to me for setting him right on this subject. The error, such as it is, is the more



milked by the (retail) milk-dealers, who contract with the cow-keepers for the milk of a certain number of cows, from sixteen to eighteen-pence for eight quarts.\* When the milking is finished, a bushel-basket of turnips is given to each cow; and very soon afterwards, they have an allotment, in the proportion of one-truss to ten cows, of the most grassy and soft meadow-hay, which had been the most early mown, and cured of the greenest colour. These several feedings are generally made before eight o'clock in the morning, at which time the cows are turned into the cow-yard.† About twelve o'clock, they are again confined to their stalls, and served with the same quantity of grains as they had in the morning. About half past one o'clock in the afternoon, the milking commences in the manner as before described, and continues till near three, when the cows are again served with the same quantity of turnips, and about an hour afterwards, with the same distribution of hay as before described.

This mode of feeding generally continues during the turnip season, which is from the month of September to the month of May. During the other months in the year, they are fed with grains, cabbages, tares, and the foregoing proportion of rowen, or second-cut meadow hay, and are continued to be fed and milked with the same regularity as before described, until they are turned out to grass, when they continue in the field all night; and even during this season, they are frequently fed with grains, which are kept sweet and eatable a considerable length of time, by being buried in pits made for that purpose. There are about ten bulls to a stock of three hundred cows. The calves are generally sent to Smithfield market at one, two, or three days old. Good milkers are kept four, five, six, and some times even seven years, and are then dried and fattened by the same kind of food as was given to them while they gave milk, and are then sold off to the butcher.‡

Some further remarks will be acceptable, perhaps, on the produce of cows, and the consumption of milk under the peculiar circumstances of this neighbourhood.

From the facts adduced in the preceding article, it appears that there are about 8,500 milch cows kept, for the purpose of

\* The price varies with the distance, as, close to the town, eighteen pence; at a mile, or a mile and a half, seventeen pence; two or three miles, sixteen pence.

† The ground-work of cow-yards ought to be of lime rubbish, chalk, &c. which makes a sound bottom, prevents the cows from poaching the yard, and is easily scraped and kept clean.

‡ I remember hearing a cow-keeper say, about the year 1780, that he gave linseed jelly and distiller's wash, as part of the diet of his fattening cows.

supplying the metropolis and its environs with milk; and, according to the information received, the quantity given by each cow, on an average, is nine quarts a day, equal to, per annum, 3,285 quarts.

The calf takes part of the milk for the first two or three days, during which time it would not be saleable; and there is a falling off for a few days before the cow calves: these things occasion a deduction of about eighty-five quarts, leaving the saleable produce of each cow 3,200 quarts, which, at the medium price of seventeen pence, for eight quarts, amounts to..... £28 6 8

To which sum add for a calf, at two or three days

old, from 20s to 30s. the medium is about..... 1 3 4

And it gives the total annual produce per cow ....£29 10 1

which on 8,500 cows, amounts to 250,750l. per annum.

The cow-keepers feed their cattle very high, in order to their producing the greatest possible quantity of milk.

The expence is nearly as follows:

Turnips, 14 bushels per week each cow, at 2½d per

bushel, is..... 0 2 11

Grains, 7 ditto, at 2½d per bushel ..... 0 1 7½

Hay, 1 truss, at 4-10ths per ditto, at 1s. 9d. per truss 0 2 \*5½

0 6 11½

Et cæteras ..... 0 0 0½

The expences of keeping a cow one week, is.... 0 7 0

And per annum, 18l. 4s. which taken from 29l. 10s. (the produce, as before stated) leaves 11l. 4s. for interest of stock, losses in cattle, the hire or support of horses and waggons, rent of buildings, attendance and profit.†

The consumers pay three-pence halfpenny per quart to the retailers. If the latter were to sell the milk pure and una-

\* This may, perhaps, be deemed a low price to put the hay at, but it will not appear to be so, if we take into the account, that the cow-keepers mow their land two or three times in a season, as their object is to procure the most grassy and soft hay they can. Hay of this kind would scarcely be saleable at market.

† The late Mr. Harper, of Bankhall, near Liverpool, made the following remark on the produce of a cow, and the expence of keeping her. "I have been informed by an industrious cow keeper in Liverpool, that his cows average nine quarts of milk per day all the year through, which is sold at two-pence per quart, with the advantage of felling cream. But then, he says, there is a discount to be made: as, when the summer months come in, there is often a great flow of milk comes out of the country, which reduces



adulterated at this price, it would yield them a profit of 64*l.* 14*s.* per cent. But, in order to discover the actual profit of the retailers, we must add six-pence for short measure and the extraneous articles mixed with it, which increases 2*s.* 4*d.*, the usual price of eight quarts, to 2*s.* 10*d.*; and, as it costs them only 1*s.* 5*d.*, there remains for labour and profit 100 per cent. Thus the retailers clear 28*l.* 6*s.* 8*d.* by every cow. On the whole, they divide among them the unreasonably large sum of 240,833*l.*, and the sum paid for milk amounts to 481,666*l.*

When the families of fashion are in town for the winter season, the consumption and consequent deterioration of milk are at the highest. During the summer months, when such families are, for the most part in the country, the milk may, probably, be of rather a better quality. The cream is taken from so much of it as remains unsold, and made into fresh butter for the London markets. The butter-milk is given to the hogs.

The milk is always given in its genuine state to the retail dealers; and as it is sold to them by the cow-keepers after the rate of two pence and one-eighth of a penny *per* quart, and is retailed by them at three pence halfpenny *per* quart, the profit is surely so large as ought to prevent even the smallest adulteration. But, when it is considered how greatly it is reduced by water, and impregnated with worse ingredients, it is much to be lamented that no method has yet been devised to put a stop to the many scandalous frauds and impositions in general practice with regard to this very necessary article of human subsistence \*.

reduces the average both of milk and cream to two-pence per quart the year through.

To 3235 quarts of milk, at two-pence per quart	-	£	27	7	6
To the average keep of a cow in grains, &c., for one year, at 4 <i>s.</i> 6 <i>d.</i> per week	-		11	14	0
To 160 stone of hay, at 8 <i>d.</i> per stone	-		5	6	8
To 16 weeks grass, at 3 <i>s.</i> 6 <i>d.</i> per week	-		2	16	8
Together			19	16	8
Remains			£	7	10 10

for interest of stock, losses in cattle. and profit."

By this account it appears, that the difference of the profit of a cow at Liverpool or London, is not greater than might be expected. The account states the produce at nine quarts per day all the year round; and I think the produce in London will at least be as high as at Liverpool.

\* Not satisfied with the profit here stated, which, considering the difference of measure, is above 100 per cent. It is a common practice with the retailers of this useful article to carry the milk first home to their own houses, where it is set up for half a day, when the cream is taken from it, at least all that comes up in that time, and it is then sold for new milk; by which means, what is delivered in the morning is no other than the milk of

Five or six men only are employed in attending near three hundred cows. As one woman cannot milk more than eight or nine cows twice a day, that part of the business would, necessarily, be attended with considerable expence to the cow-keeper, were it not that the retailer, as before observed, agrees for the produce of a certain number of cows, and takes the labour and expence of milking on himself.

Every cow-house is provided with a milk-room (where the milk is measured and served out by the cow-keeper,) and this room is mostly furnished with a pump, to which the retail dealers apply in rotation, not secretly, but openly before any person that may be standing by, from which they pump water into the milk vessels at their discretion. The pump is placed there expressly for that purpose, and, indeed, is seldom used for any other. A considerable cow-keeper in Surry has a pump of this kind, which goes by the name of the *famous black cow*, (from the circumstance of its being painted black) and is said to yield more than all the rest put together.

Where such a pump is not provided for them, things are much worse; for, in that case, the retailers are not even careful to use *clean* water. Some of them have been seen to dip their pails in a common horse trough, and what is still more disgusting, though equally true, one cow-house happens to stand close to the edge of a stream, into which runs much of the dung, and most of the urine of the cows; and even in this stream, so foully impregnated, they have been observed to dip their pails.

A cow-keeper informs me, that the retail milk dealers are, for the most part, the refuse of other employments; possessing neither character, decency of manners, nor cleanliness. No person could possibly drink of the milk were they fully acquainted with the filthy manners of these dealers in it.

The same cow-keeper suggests a remedy for these abuses, that it would be highly proper for every retail milk dealer to be obliged to take out an annual license from the magistrates; which license should be granted only to such as could produce

the preceding afternoon deprived of the cream it throws up by standing during that time. By this means a farther considerable profit accrues to the retailer, and the milk is greatly reduced in point of strength and quality. This cream, poor as it is, they again mix with flour, chalk, and, perhaps, more baseful ingredients, and yet it finds a ready market in the metropolis. It is a matter of surprize, that in the city of London, so long and so deservedly famous for the attention and vigilance of its magistrates in the conduct and regulation of the markets, no notice has hitherto been taken of, or any means adopted to prevent, the abuses so generally and justly complained of in an article, the consumption of which, in London and its environs, is greater than in half the cities of Europe. Milk has always been a favourite part of the food of Britons, and, in a great and populous city, it is highly conducive to the health of the inhabitants.

a certificate of good conduct, signed by the cow-keeper and a certain number of their customers; and also of their being sworn to sell the milk pure and unadulterated.

Such are the facts which have been collected on this subject, and the remarks which they have very naturally suggested. Probably, when your correspondent Chorographus shall treat us with an account of the agriculture of Middlesex, these explanations will save him some trouble. He concludes his last letter with an extract from a fugitive piece I before quoted, in which he tells us,

“ I measure time by its employment,

“ And only value life for life's enjoyment.”

When this volatile correspondent of yours has attained my graver years, and has discovered how much of the bustle and activity of life terminates in vacuity and disappointment, he will, probably, acknowledge some other criterion by which he will estimate the pleasures of existence, than merely the comparative velocity with which objects are reflected on the pellucid mirror of the mind.

I am, Sir, yours, &c.

TOPOGRAPHUS.

*April 15, 1804.*

ACCOUNT OF AN EXPERIMENT ON THE GENERATION OF YEAST, MADE UNDER THE INSPECTION OF THE COMMITTEE OF CHEMISTRY OF THE SOCIETY OF ARTS, MANUFACTURES, AND COMMERCE, &c.

*To the Editor of the Agricultural Magazine.*

SIR,

THE Society of Arts, Manufactures, and Commerce, had given notice of a reward for a method of generating yeast. The subsequent particulars are from one of the most successful experiments, made under the inspection of the Committee of Chemistry of that Society. I have supposed, from some late papers which have appeared in your Magazine on this subject, that you would consider the matter deserving a place in your useful work.

Four quarts of ground malt were put into a new stone-ware vessel, and mashed, with about an equal quantity of hot water, in the usual manner for brewing.

When the mash had stood about an hour, the wort was drawn off, and three quarts of boiling water poured on the grains; when this had stood a due time, the liquor was suffered to run off, and the whole liquor boiled half an hour; being then set to cool, it was poured clear from the sediment, and then put in a room where the heat was regularly kept up to summer heat, or nearly 80 of Fahrenheit's thermometer.

It stood in this degree of heat till some signs of fermentation appeared on the surface; which came on in about three days.

Another brewing was then made, as above described; and when of a due heat, stirred into the former liquor. In about twenty four hours, some yeast appeared, and another brewing was then made; and, when of a due heat, mixed with the two former ones and well beat in, the heat being still kept up to the degree abovementioned; in about two days more, five ounces of excellent yeast were collected from the surface of the liquor.

Some of this yeast being mixed with a proper proportion of flour, water, and salt, answered all the purposes intended for bread; and might certainly have been equally well applied to brewing in the common method. In fine, being pure and good yeast, it will answer all the intentions of that useful article.

Adelphi,  
April 7, 1804.

I am, Sir, yours, &c.

P. C.

#### VETERINARY ART. LETTER VI.

ON THE POLL-EVIL, IN CONTINUATION; ON THE SLOW AND SPEEDY CUT, SAND-CRACKS, FALSE QUARTERS; AND THE RUNNING-THRUSH.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** CONCLUDED my last letter with a new method of treatment under the Poll-evil; I will now explain the usual way, and make some observations on the comparative merit of these two modes of cure.

#### POLL-EVIL.

When repellants are ineffectual, and the tumour, from its external appearance, indicates the formation of matter, ripening poultices (to which I have before adverted) must be used until the swelling burst of itself, or the knife be safely and dexterously applied. Now the farrier must attend to the quality of the matter emitted, for if it flow in great quantities, resemble glue, and be of an oily consistence, it will require a second incision, especially if any cavities be discovered with the probe. After this, the following wash should be used hot, which may be made sharper by adding more of the vitriolic ingredient; yet, if the flesh be luxuriant, it should be pared down with a knife before the wash is employed.

R.—Vinegar, or spirit of wine, half a pint; white vitriol dissolved in spring-water, half an ounce; tincture of myrrh, four ounces; when this has been used, the aperture may be filled up with tow soaked in it.

It is obvious, that the employment of the knife, which may be here necessary, is very dangerous in unskilful hands, and yet it must be resorted to if the tumour do not quickly burst, for the matter will acquire a most ichorous, coroding quality, and will produce one of the largest and most sordid fistulous wounds with which the animal can be afflicted, and even the vertebræ of the neck will be sometimes affected by this powerful solvent. By the seton, which was the method first recommended, this peril is avoided. The precise time of using the seton is not very material, but the exact day when the tumour should be opened, is of great consequence, for the whole object of the operation may be disappointed if it be neglected. Some skill in the anatomy of the animal is likewise required, for the greatest care must be taken to avoid injuring the tendinous legament that runs along the neck; and when the abscess extend on both sides, two apertures must be made, that the ligament may remain undivided. Another inconvenience in the latter method is, that to the form and situation of the incision the operator does not properly attend. It is commonly opened the whole length of the tumour on the upper part, hence the matter within it cannot be discharged, but being retained in the bottom of the wound, is exposed to external air, and the destructive qualities of this corrosive fluid are increased, and may soon become fatal. In the former method, a constant discharge is procured, in a situation most likely to assist the exit of the matter from the seat of the disorder.

I will only mention one objection further to the last method, and then give an example in which both expedients have been resorted to.

According to the latter mode of treatment, I have noticed a great quantity of fungous flesh is soon produced, that requires to be repeatedly extirpated with the knife, which not only exposes the horse to excruciating torture from the frequent indiscretion of the operator, but occasions the beast to be greatly disfigured, so as to be rendered unfit for any purpose of amusement or parade, and to be for ever consigned to starvation and drudgery. The loss of substance sustained by cutting away so much of the flesh, neither decreases his powers or lessens his spirit, but entirely deprives him of that beautiful exterior, on which these unfortunate animals depend so much for the blessings of existence.

Mr. Clarke of Edinburgh attended the coach-horse of a nobleman in that neighbourhood, which had been afflicted with the poll-evil. The tumour had been opened on one side in a very superficial manner, by a farrier in the country, before the matter in it was sufficiently digested. After applying a few emollient poultices, in order to ripen it, a strong seton-

needle was introduced at the upper part of it, almost close to the mane, passing it through the bottom of the tumour, which was very deep, the needle was brought out through the sound muscular parts below the tumour, in order to procure a sloping orifice for the matter to run freely off. The same operation was likewise performed on the opposite side, beginning near the mane and finishing in the same manner. In a few weeks the cure was completed. The horse ran for several years in the nobleman's carriage, without the smallest vestige of his former disorder.

#### THE SLOW AND SPEEDY CUT.

Inflammation, swelling, and lameness, are often occasioned by an awkward trick acquired, or some natural defect in the animal, by which he strikes the shoe of one leg against the fetlock or knee of the other. When he wounds the fetlock, it is called the slow-cut; when the knee, the speedy cut; and both are very often caused by mismanagement in the shoeing. The hoofs by this injudicious shoeing, are suffered to grow too large and broad, the shoe often projects over the inside edge of the hoof; and the rivets of the nails frequently rise above the surface of the horn. But sometimes a natural defect is the cause of this evil. Some horses cross their legs in trotting; some have the clownish form, and turn in their toes; others turn them outwards, and stand upon their limbs, as the jockies phrase it, like a dancing master. In these cases, horses will be liable to cut, and where we have to counteract nature, the cure is very difficult. But the habit of cutting most commonly proceeds from the mismanagement to which I have alluded; or from another sort of inattention, equally blameable, the animal being over weighed; or over fatigued, or, in the stable phrase, worked down. As the cure in such cases depends on the discretion and humanity of the owners, I shall recommend those qualities to them; and in addition to these, give the best general rule with which I am acquainted for checking this habit in horses, viz.

“To keep their hoofs round and short at the toes, and from growing too large and broad; to observe that the shoe does not project over the inside edge of the hoof; that the clenches or rivets of the nails on the outer surface or crust are smooth; and above all, that the shoe be made light, well-worked, and properly proportioned to the size of the foot.”

#### SAND-CRACKS AND FALSE QUARTERS.

Both these disorders being much of the same kind, I shall make no division of the subject where so little difference exists; indeed they may be only considered as denoting various degrees of the same complaint. It is a chink in the side of the hoof, usually taking the direction of the horny fibres, and

generally extending from the coronet to the base. This disorder is frequently treated as of little consequence; yet the fact is, that no radical cure can possibly take place. Nature being deprived of her support, it is necessary to give her artificial assistance, and what is called a bar-shoe is provided, to support the weight of the animal, without pressing too violently upon the seat of the complaint. When the horse is employed on the road, sand and gravel enter the cavity, and are extremely difficult to be extracted, but if they are not carefully withdrawn, corrosive matter will be formed underneath the hoof, and a most inveterate ulcer will be produced. The first step necessary is, to endeavour to keep the part perfectly clean, and if, in consequence of any neglect, an extreme tenderness should appear (of which the horse will not fail to convince the person who examines him, on the application of the probe) an emollient poultice must be applied, if in consequence of the use of the knife, to render the crack smooth, and thereby to prevent the lodgment of sand and gravel, proud flesh should be generated; this luxuriance may be corrected by applying to it the following preparation.

R.—Blue vitriol burnt, two drams; corrosive sublimate, one dram, rubbed into powder.

#### RUNNING THRUSH.

This disorder is usually called by farriers the running frush; and instead of being, as the last complaint, in the quarter, it is situated in the middle of the frog; but like the last, it must be generally considered incurable. Sand cracks are usually confined to one foot, but this, although more commonly affecting the fore feet, as it arises from a foul constitution, frequently infects all the feet, and then the only consolation under the complaint is, that it may assist in draining off corrupt humours. Those who have carefully observed the foot of this animal, have seen the utility of the division of the heel, which nature has provided. When the horse presses his heel upon the ground, the frog expands and the heel widens, and by this means his step is rendered firm and secure. It is one of the advantages of the new method of shoeing I have before recommended, that the facility of this expansion is preserved; but in the old method, the heels are constantly confined, by which the frog is pressed on both sides, by the crust of the heels being forced into the state of contact, and this is almost the constant cause of the complaint. When the disorder proceeds from heels which are contracted, either by nature or mismanagement, no cure can be expected without removing the original cause. The hoofs should be kept moist and cool, flat shoes should be used, from which the hoofs at least can receive no bad shape, and the frog must be permitted

to enlarge and rest upon the ground. To counteract the effect of bad shoeing, in this case, it will be sometimes sufficient to turn the animal to grass for three or four months without shoes, but when he returns again to usefulness, the utmost care should be taken that no injudicious shoeing renew the complaint.

Under the disorder of the running thrush, internal remedies must not be neglected. Bleeding should first be resorted to, and afterwards a course of aperients, whether purges or diuretics will be necessary. When the horse returns home from his work, the diseased frog must be washed perfectly clean, and the following dressing, which has been called Mel. Egyptiacum, should be applied.

R.—Verdigris, in fine powder, 2 oz.; honey, 6 oz.; vinegar, 4 oz.; boil them over a gentle fire till they have acquired a reddish colour.

The ignorance of persons who undertake the cure of horses, has occasioned them frequently to mistake a greasy exudation from the protuberances of the heels for the running thrush. The cure of the former, although not within my present subject of enquiry, is familiar to every practitioner of the new-school, whilst the most skilful professor ineffectually applies all the resources of his art to the complete and radical cure of the latter.

Westminster,  
April 9, 1804.

I am, Sir, yours, &c.  
VETERINARIUS.

## ACCOUNT OF EXPERIMENTS IN CULTIVATING RICE IN THE VICINITY OF LONDON. BY SIR JOSEPH BANKS.

*To the Editor of the Agricultural Magazine.*

SIR,

RICE is an article of so much consequence, that I think any experiments upon it deserving attention. The following were made by Sir Joseph Banks, at an estate in the vicinity of London, on which he succeeds my uncle. A short description of the plant may, perhaps, facilitate the comprehension of a subject which has become more curious, because rice has been considered too tender to be produced in these northern countries, without the assistance of artificial heat.

Rice, or *oryza*, in Botany, is a genus of the hexandria digynia class. Its characters are these: the chaff is small, acute-pointed, having two valves, nearly equal, inclosing a single flower; the petal has two valves, which are boat-shaped, ending in a beard or awn; it has a two-leaved nectarium, and six hairy stamina, the length of the petal terminated by summits, bifid at their base, and a turbinate germen,



supporting two reflexed hairy styles, crowned by feathered sigmas; the germen afterward becomes one large, oblong, compressed seed, having two channels on each side, sitting on the petal of the flower.

"The dry or mountain rice, which I received last year from the Board of Agriculture, for trial, had been procured at a considerable expence by Sir John Murray, from the neighbourhood of Serinagar, a city in India, situated at the foot of Mount Imaus, where snow lies till late in the Spring; and where the climate has been supposed to resemble that of England sufficiently to make it probable, that the vegetable productions of the one, would equally succeed in the other country; I consider it as a duty owing to the patriotic exertions of Sir John, to give your Lordship and the Board, some account of the result of the trial of it, made by me at Spring-Grove, near Hounslow, in Middlesex.

"It was not till near the end of May, when the samples, being of six sorts, were delivered out by the Board, and they were sown immediately, on the 21st day of that month, on six small beds in a garden, under the shelter of a pale, in a South exposure.

"The grains were sown very thin, in order that the progress of their vegetation might be better noted; in a very few days they appeared above ground. The season being warm, with a moderate supply of rain, it was seldom necessary to water them; however, when they appeared to flap, which generally happened after three or four dry days had taken place, they were well sprinkled with a watering pot.

"In less than a month, they had grown several inches high; each sort had acquired an appearance very different from the rest; some were pale green, and had broader blades; some were deeper coloured, and narrower in the blade; and one sort had a brown hue on the whole plant; and the bases of the leaves in this kind were nearly black.

"During the month of August, they tillowed much more than I have observed any other corn to do; so much so, that although they had been sown very thin, they became a dense, compact bed of plants; the blades in some of the kinds standing as close or closer to each other, than the thickest sown barley ever does.

At the close of the month, the blades were from a foot to eighteen inches high; the plants continued to tillow, each root having by this time produced from ten to twenty off-sets, but no symptom of a rising stem was at all observable.

In the middle of September, they had still continued to tillow, and the blades to lengthen, so that some of them were at least two feet long. As the frosts of the Autumn were nearly now approaching, it became an object of some import-

ance to examine the state in which the plants really were, in order to ascertain the probability of their having produced ears, or possibly of their having ripened corn, if they had been sown a month or two earlier. The most careful inspection was therefore made by dissection, but no traces could be found of the rudiment of a joint beginning to form itself on the crown of the root, or of the embryo of the glumes of the ear, which in all kinds of corn, are first discernable in that part.

"About this period I was taken ill, and obliged to desist from observing their future progress; but a frost soon after followed, which cut the blade down to the earth, and at once destroyed all hopes of these kinds of rice producing grain in our climate; the quantity of the blade was however so uncommonly great, that it is not impossible it might be advantageous to sow it as food for cattle, for a very large proportion of stock might certainly be maintained upon an acre of it.

"Before the frost set in, I had ordered a tuft of each kind of the rice to be transplanted into a pot, and placed in a hot-house, in order, if possible, to ascertain the natural period of this grain; whether, like winter corn, it requires eight or nine months to come to perfection, or, like our Lent corn, arrives at the same period in five or six; but all of these died, notwithstanding great attention was paid to them: some seed, however, which I had given to Mr. Lambert, succeeded better; it was sown in his hot house in the month of June, where it thrived well, but did not produce ears till near Christmas, a period of seven months, from whence it is probable the grain would have ripened in less than two months from the time the ear appeared. It is easy to deduce, that in the neighbourhood of Serinagur, these kinds of rice are either sown as winter corn, or the climate there is far better suited to promote the quick progress of vegetation than ours is. It was, when it produced ears, about three feet and a half high, and some of the stems had five joints, including the radical one: had it been in a more suitable climate, it would certainly have grown taller, for the flowers dropped off without producing seed.

I am, Sir, yours, &c.

*Little Smith-street,  
College-street, Westminster,  
April 6, 1804.*

J. D. C.

OBSERVATIONS ON THE SELECTION OF ANIMALS FOR LABOUR, AND OTHER MATTERS. IN REPLY TO AGRICOLA NORFOLCIENSIS.

*To the Editor of the Agricultural Magazine.*

SIR,

March 31, 1804.

I HAVE this day received your Magazine for last month, in which it is stated by Agricola Norfolciensis, that Agricola Meridionalis and I have worked our horses and oxen "to the bone in the dreadful contest for superiority, and that it is high time to unyoke," and my two last letters on animal labour, will shew that *with respect to "unyoking,"* my opinion is not much at variance with his. I must, however, beg leave to observe, that his assertion, that I have "worked my horses to the bone" is not well founded, for during the whole of the contest, I contend, that they were continued in good health and condition—vigorous and full of mettle—and that two of them performed more work on much less food, and were much more profitable, both to their owner and the country, than my adversary's oxen, allowing him either two, four, six, or eight of them to a team. After considering this, Sir, and your correspondent's words, "that A. M. and I have left the subject where we found it," your readers will be enabled to form a just opinion as to the correctness of his statement or the fulfilment of his prophecy. Perhaps I do not give to the words in the last quotation that interpretation he intended them to bear, and will, therefore, be glad if he will explain them, and point out such parts of my comparative statement as he deems incorrect; for though it may be high time for A. M. and I to "unyoke," yet as he (A. N.) expressly admits the importance of the subject, and seems to entertain an opinion, that the controversy is still undecided, it may be equally expedient in him to employ those abilities with which he is blessed, in pointing out our errors in the contest, and in forming our judgment on the comparative merits of horses and oxen in farm labour. If I am not mistaken, you stated in your number for August last, that this subject could not be too much investigated. In your Magazine for January, Chorographus says, "I shall see with pleasure its revival in your Miscellany." I am, therefore surprised, and rather dissatisfied, that you have not published the letter you say you have received from "a Northern Farmer," for I am anxious to see the opinions of new advocates in the cause; and as I presume Norfolciensis would not have given you his statement relative to the contest between A. M. and I, without being ready and willing to advance new arguments, as well as to point out our errors, I have to request that you'll publish this letter from the new advocate, ("a Northern Farmer") as soon as you can. Between

him and A. N. there may be a clashing of opinions, and your readers will probably be enlightened by the emission of sparks from the collision. It has been asserted by some *critics*, that when farmers sit down to write, their ideas are confused by the diversified scenes they so frequently notice in the course of their business; such as the thundering of the thrashing mill, the bellowing of the cattle, the grunting and yelling of the swine, the bleating of the sheep, the movements of the ploughs, harrows, &c. &c. And, Mr. Editor, without the trouble of enquiring as to the *reasons*, it is a deplorable truth; evinced by the writings of too many of the fraternity, that we too frequently labour under a *crowd* of ideas, and wander from the subject of discussion. See what Norfolciensis has stated as to A. M. and I: "Seriously," says he, "both parties have wasted their time and paper on much irrelevant matter," and "taken up that room in your collection which might be filled with more valuable matter." Here, however, I beg to remark, that the subject I investigated was, the ox and horse question, *connected with the corn trade, and other important matters within the scope of an agricultural publication*; and that, perhaps, the "irrelevant matter" is not so great as he at first sight imagined. In its defence, I offer no remarks; but that introduced by my opponent was able, entertaining, and instructive, much more so, indeed, than that part of your Magazine called "National Transactions," for which newspapers are the most proper vehicles: and I cannot avoid observing, that A. N.'s letters do not furnish so great a supply of "more valuable matter" as would fill the chasm occasioned by omitting both that article and the controversy regarding horses and oxen.

When the time arrives, Mr. Editor, (and probably it is at no great distance) that the communications of your correspondents are too numerous for publishing in proper time, you will no doubt request that they will shorten them; that they will "wander" less, or introduce no "irrelevant matter." Then, Sir, perhaps, you will have reason to notice the latter description of matter, not only to A. M. and I, but likewise to Agricola Norfolciensis—to that *very gentleman who is rather too keenly censuring others*. As a proof that there will be occasion for this, if his future letters do not differ from the past, I must take the liberty of making a few remarks on those in your last, and your October number. In one of these, he begins with the New Farmer's Calendar, and expresses his displeasure at the severity of Mr. Lawrence on "the petty prejudices of our plain and honest forefathers, &c.;" next he arrives at "Mr. Marshall's miraculous barberry bush in Norfolk;" then he enters upon the mill-dew in wheat, and its deplorable effects in that county last year. After dwelling for some time

time upon this, which is the principal subject of his letter, he wisely concludes his remarks upon it, by stating the position of the bush, and that of the damaged wheat; by stating the fact, without "daring" to comment upon it. He then, unmercifully mounts my horses, *which he says had been worked to "the bone;"* and enquiring as he passes along, whether a shim is a parallelogram or a triangle, and calling upon Mr. Lester for the aid of his implements, rides as fast as they could carry him from "the direction of the (dreadful) blast" of the Norfolk bush, through the fens and hedges of Cambridge and Lincolnshire, to the city of York, where he gives excellent advice to the celebrated Dr. Hunter, touching the satire of "Democritus," and hopes that he will permit his valuable opinions on agriculture, compost and other manures, to be widely disseminated for the advantage of mankind. In the other, *in one letter*, he writes on drill machines, shims, patents, the price of drill machines, lucerne, sain-foil, vetches, Mr. Sanders and his pigs,\* (which would be more dreadful and injurious than Bonaparte and his whole army) the cultivation of Swedish turnips, mildew on wheat, *but not on the miraculous "barberry bush,"* and on tithes. From the pens of others, perhaps, A. N. would have reckoned the matter in these letters a *farrago*, and a poor contribution towards compensating your Readers for their "eighteen pence." From his own, however, he doubtless deemed it important "information;" and in truth, Sir, it is neither the importance of the matter he sends you, nor his manner of communicating it, that I am calling in question, for I have read his letters in your Magazine with pleasure and advantage, and consider him as a valuable and able correspondent. I am merely endeavouring to show, that he has imputed to Agricola Meridionalis and I, *and censured us for*, conduct similar to that he has himself pursued, and that he has not attended to the precept of the great master in morals, who said, "cast out first the beam out of thine own eye, and then shalt thou see clearly to pull out the mote that is in thy brother's eye." *Ardently* requesting that you will publish this letter in your next Magazine,

I am, Sir, yours, &c.

AGRICOLA NORTHUMBERIENSIS.

\* In this part of the country there are already far too many of these animals, and if Mr. Saunder's mode of breeding them in millions upon millions, and of feeding them almost entirely on *air* were pursued, the prices of beef, mutton, and grain would speedily decline upwards of 50 per cent. from which the most ruinous consequences would flow. For God's sake, Sir, take no part in publishing his *scheme* under the present circumstances of the country.

## ON THE ALNWICK ESTATE, &amp;c.

*To the Editor of the Agricultural Magazine.*

SIR,

April 10, 1804.

**Y**OUR Correspondent, "A Caledonian," has stated that "I reside in the neighbourhood of Alnwick Castle, among the opulent farmers, tenants of the Duke of Northumberland." He is, however, mistaken as to my place of residence, and I am sorry to say, that I believe he has likewise been misinformed as to the opulence of the occupiers of the vast estate of that wealthy and worthy nobleman. There are among them a considerable number who are highly respectable in every point of view, but as *a body*, they are not distinguished for opulence.

There have been many warm and important disputes among rural and political economists, concerning the comparative advantages of large and small farms, and of leases and tenants at will, but even those who have contended for the superiority of these tenants and small farms, *in a national point of view*, have, always, I think, admitted that under such circumstances, farmers cannot enjoy the advantage of "opulence;" and when "A Caledonian" is informed that his Grace of Northumberland's tillage farms are generally small, and in the occupation of tenants at will, he will, probably, retract his opinion as to their wealth. The mode pursued on this estate, of letting by written proposals, is also unfavourable to the tenantry, and will, I conceive, be, ultimately, detrimental to the landlords and the community in any situation.

Any person possessing a great stake in a country must be anxious for its prosperity *on the score of interest alone*; but, Sir, the Duke of Northumberland's anxiety for the prosperity of the British empire, proceeds principally from a nobler source—from *patriotism*. It was this which led him, *when heir apparent to the greatest fortune in the kingdom*, into actual service in the army, in the seven years war, and to cross the Atlantic to fight the battles of his country in America, where he was very actively engaged in much important service; and at this momentous period, it ought to be written in letters of gold in every city and town in the British dominions, that he now supports two regiments of excellent volunteer infantry and one of cavalry, without any expence to Government, except that for arms and ammunition. His benevolence is great in proportion to the wants of his fellow-creatures, and he has frequently distributed from five to seven thousand pounds a year in charity. A warm and indefatigable advocate for the cottage system, he has caused great numbers of houses of this description to be erected in or near almost every village in

the wide range of his vast domains; the quantity of land assigned to each house is from about one to five acres, on moderate terms. On the excellence and vast importance of this system, in promoting the comfort and happiness of great numbers of the lower orders of the people, and in increasing the population and real strength of the kingdom, it would be a waste of words to expatiate. I must, however, take the liberty of remarking, that when his Grace extended his arm to the married servants of farmers (three-fourths of whose wages are, in most situations in this part of the country, paid in corn, milk,\* wool, potatoes, and cabbage,) he perhaps extended it farther than was consistent with the convenience of his tenants, and the proper management of his lands. Brought up a soldier, his Grace is extremely regular, accurate, and methodical in all his concerns, and much more the man of business than of pleasure. What then, it will be asked by a numerous and respectable body of rural economists, is the reason that his vast estate is so ill managed as to be divided into small farms, and let to tenants at will? In this happy country, every man has the power of conducting his affairs in the manner he most approves; and, I trust, enough has already been stated to shew, that the mode pursued by the Duke of Northumberland is that which his Grace deems best calculated to promote the interests of his country. It is a great misfortune to the County of Northumberland, that this distinguished nobleman has long laboured under so severe an indisposition (principally gout) as to be totally incapacitated from paying that attention to rural affairs, to which I have heard he is much inclined. If his health had permitted him to persevere in that system which he adopted about ten or twelve years ago, of residing principally at Alnwick Castle, and frequently viewing almost all parts of his estates, and the adjoining country, his judgment and penetration would soon have enabled him to discover the defective system pursued in their management, and that he has been misled by the suggestions of theorists; and, perhaps, in some measure, by some arbitrary landholders. A more striking proof of the mismanagement of his estates cannot be adduced, than that obtained by comparing their present and past rentals with those of other large estates in the county, particularly those of the Earl of Tankerville and Sir Henry Grey, Bart.† which have long been let in large farms to able and substantial tenants, under the security of leases for twenty one years. Within

\* A cow, (sometimes two) and a swine and poultry, are allowed to each family; also a small garden.

† Only brother of General Lord Grey, the father of that inflexible and able patriot, the celebrated member for Northumberland, who will probably inherit this fine estate.

a space of time not much exceeding fifteen years, the two latter have increased in value, in the ratio of about 6 to 10, if not in that of 1 to 2, whilst those of the Duke of Northumberland have increased in about that of 3 to 4, if my information can be depended upon, and I believe it is pretty correct.

Within the last four or five years, rents have increased in this quarter of the kingdom in a still greater proportion, as the table below will prove.

Farms.	Late Rents.	Term let for.	Present Rents.	Term let for.
	£		£	
1	350 <i>per an.</i>	21 years	700 <i>per an.</i>	21 years
2	270 —	21 —	630 —	16 —
3	200 —	21 —	600 —	21 —
4	300 —	21 —	900 nearly	21 —
5	300 —	21 —	800 —	21 —
6	360 —	21 —	1160 —	21 —
7	300 —	21 —	1000 —	19 —
8	270 —	21 —	1100 —	21 —
9	300 —	21 —	1200 —	19 —

These farms are situated within a circle of about 15 to 20 miles broad, or little more, comprising part of the counties of Northumberland, Berwick, and Roxburgh, they are all large, and at the expiration of the late leases were not divided and subdivided according to the custom of too many proprietors, but nearly all let without diminution in the quantity of land. In most of them, the best soils cost the tenants from 40s. to upwards of 50s. an acre, and the inferior lands in proportion,\* though the greatest part is subject to tithe of almost all kinds, and to parliamentary and parochial taxes, &c. and though the prices of grain in the district are generally a good deal lower than in any other in the kingdom. How far farming can become "opulent" under these circumstances (the soil being much below the first quality) your experienced readers will easily determine; and I presume, that if they can attain that state, your correspondent, "A Caledonian," will believe their merit very great, and that their landlords and the community will owe them a vast debt of gratitude. It appears, however, from what he has stated as to "these large engrossers of English territory," &c. that he considers large farms detrimental to the interests of the country, and that, as I some time ago expressed an opposite opinion, he has thrown the gauntlet at me.

\* One of these farms is, on the average, 438. an acre.



The subject, Sir, is an important one, and if the letters I have lately addressed to you on the rotation of crops and summer fallowing, do not bring forward such a discussion as may render the necessary attention to him inconsistent with my avocations, *I accept the challenge*. I am decidedly of opinion that English farms are frequently *much too small*, and that if they were enlarged, and occupied under the security of leases for fifteen to twenty-five years, much greater capital and abilities would be employed in our agriculture, and that all parties concerned, the landlord, the tenants, and the community, would be benefited in a much greater degree than under the present systems. The ancient Caledonians, Mr. Editor, were the only people in Europe who withstood the mighty forces of ancient Rome. Their descendants not only inherit the valorous and unconquerable spirit of their ancestors, but are eminently distinguished for knowledge in the important art of rural economy; I should, therefore, hesitate extremely to contend with one of *that race* either in the field of Mars or Ceres, were I not *confident* of the superiority of my cause, that this Caledonian differs from most of his countrymen respecting large farms, and that I shall be able to draw such materials from the *practice* of the northern side of the Picts wall, as well as from that of several landholders in various parts of England, as will be highly conducive to my success in the contest.

That this gentleman is really a Caledonian, I must not doubt: I cannot help stating, however, that after reading that part of his letter contained in p. 102 of your last number, I was forcibly struck with its similarity to the stile and manner of your correspondent Agricola Meridionalis, and glancing at the word "Lanerik" in the opposite page, ere I saw the signature, I immediately concluded that he had quitted the south, and driven to the north for the purpose of viewing the excellent *Lanerikshire Horses* I lately had occasion to recommend to his notice.

The "little peasantry of Ireland, Wales, Scotland, and many parts of England, which your correspondent is pleased to say I have forgotten, have not been driven to the necessity of forcing their ploughs along the furrow with "a lean cow, an ass and a goat yoked together,"\* their situation is comfortable when compared with that of the same class of people in most other parts of Europe, but even those circumstances by which he says "the labours of the farm are suspended, and the favourable season irremediably lost," tend to shew the *danger*

\* See Mr. Guthrie's Geographical Grammar.

to which we should be exposed, if the cultivation of our lands was intrusted in the degree contended for by the advocates for small farms, to a "little" tenantry. I admit the advantages which would flow to the kingdom from cottages with small quantities of land, *provided that system were not too far extended*. But, Sir, if this mighty nation were to depend for its "daily bread" on the crops raised by the "little farms," which some of our visionary rural theorists would universally introduce, all of us would speedily have occasion to say most heartily, from such cultivators, *good Lord deliver us*. Not pale faced death, but *destructive famine* would spread its ravages throughout the country.

From the "crazy carts" of these peasants I turn with pleasure to those so accurately described by "A Caledonian." Several times I have beheld with surprize the vast loads brought in some of them from the port, and *up* the beautiful "walk of Leith," to our northern metropolis, *with only one or two horses in a cart*, and when I advert to the number of huge horses so generally used in the carriages in the city of London, *for drawing loads not much heavier*, I observe a conclusion much in favour of our *northern management of teams*. The carts in the neighbourhood of Edinburgh are not only strong and cheap, but better culculated for dispatch, in yoking, &c. than any other I ever saw.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

#### ENUMERATION OF PATENTS LATELY ENROLLED.

Jan. 10, **J**OHN WOOD, of Manchester, in the county palatine of Lancaster, Machine-maker; for his new-invented improvements or additions to machines for spinning cotton, silk, and wool.

— 19, John Slater, of Huddersfield, in the county of York, Surgeon; for his new-invented improved method of manufacturing and fabricating of cables, shrouds, stays, and other articles for the rigging of ships, of materials never before used for that purpose.

— 26, George Alderson, of Carnaby-street, in the parish of St. James's, Westminster, in the county of Middlesex, Lead-pipe-manufacturer; for his new-invented manufacture of metal pipes, the same being lead, lined with tin, in a manner and by a process entirely new, to be used in all cases to which lead pipes are applicable.

Feb. 7, Mr. Edward Thompson, of Birmingham, Button and Ivory-manufacturer; for an improved mode of making pikes.

— Marcus Hymans, of Exeter-street, Covent Garden, Ag. Mag. Vol. 10.

P p

in the county of Middlesex; for a composition for shaving without the use of razor, soap, or water.

Feb. 7, William Hyde Wollaston, of Buckingham-street, Fitzroy-square, in the county of Middlesex; for an improvement in spectacles, by the application of concavo-convex glasses to them.

— Thomas Parsmore, of Doncaster, in the county of York, Machine-maker, for an improved machine for chopping of straw and for splitting beans, crushing oats, and grinding malt and barley.

### CRITICAL CATALOGUE.

*An Inquiry into the Rot in Sheep, and other Animals; in which a Connection is pointed out between it and some Obscure and Important Disorders, in the Human Constitution.* By Edward Harrison, M. D. F. R. A. S. ED. Member of the Royal Med. and Royal Phys. Soc. Ed. of the Med. Soc. London, &c. 8vo. pp. 56. Bickerstaff. 1804.

THIS tract, which is dedicated to Sir Joseph Banks, contains some very useful and important observations. "Hitherto," says Dr. Harrison, "little has been attempted towards combining the scattered principles of animal physiology and pathology into one grand and comprehensive science. Such an undertaking would lead to great practical improvements; for since a chain of connexion is extended through every part of animate nature, the unfolding of it could not fail materially to enlarge our views, and multiply our resources, for the benefit of afflicted mortals. Even the peculiarities of each individual arising from his habits, œconomy, anatomical structure, and employments, would contribute in no small degree to elucidate the constitutional functions of other beings. These observations first suggested themselves to my mind, by an inquiry concerning the rot. When I first entered upon the examination, I supposed that it was confined exclusively to sheep; but I soon discovered, that several others of the brute creation are equally exposed to this dangerous malady, and that it bears a striking resemblance to some complaints in the human body. Strongly impressed with the importance of these facts, I became more solicitous to prosecute the subject, from a desire, by this means, to benefit more effectually my own profession."

The great prevalence of dry weather, our author informs us, during the two last summers, has materially obstructed his plan, and obliged him to defer its completion to a future season; but in the mean time, he has ventured to deliver his opinion of the cause and method of preventing the rot; with a view to excite the observations of medical practitioners, and ingenious agriculturists. A design so laudable we would willingly promote to the extent of our means. "In every point of view," observes our author, "the numerous complaints of sheep seem to be entitled to a very particular consideration. Through them," continues he, "we may be enabled to clear up several important matters relative to agues, remittents, the yellow fever, dysentery, cholera morbus, &c. and probably, on further inquiry, the

Egyptian ophthalmia will be found to resemble the blindness with which sheep are sometimes afflicted in summer."—In a work devoted solely to the interests of agriculture, it may perhaps appear to be going somewhat out of our way, to notice speculative discussions on a subject so remote as the ophthalmia; but as the subject is highly interesting, as Dr. Harrison has alluded to it, and as his hypothesis respecting it is extremely ingenious and probable, we trust that we shall be excused for inserting the following observations, which he has presented in a note.

"It may be thought a bold measure in me," says Dr. Harrison, "to associate the blindness in sheep, with a malady so little understood, as the ophthalmia of Egypt; nor do I presume to offer more than conjecture and hypothesis, with respect to either of these disorders. Both affections are sometimes attended with inflammation and suppuration of the eyes, which terminate too frequently in perpetual blindness. Whoever takes the trouble to make himself thoroughly acquainted with the severe sufferings of our brave countrymen in Egypt, will, I think, be inclined to impute the ophthalmia among them, to noxious vapours, rather than to particles of floating sand, to solar reflection, or the intrusion of unseen insects. Mr. Power, who has paid great attention to this subject, remarks, that the night pickets frequently returned from duty, with inflamed eyes, and ulcerated fauces.

"An officer of engineers informed me, that, when riding on military duty in Egypt, he felt a sudden shock in both eyes, and that severe ophthalmia was the immediate consequence of this impression.

"From the symptoms appearing so soon after exposure, the occasional cause, whatever it may be, seems to produce its effects by a primary action upon the parts, and not through any impression on the general habit. This is so contrary to our experience, with respect to contagious influence in general, that I should be disinclined, from analogy alone, to join in an opinion, that the ophthalmia is ever produced or propagated by infection. Were the disorder of a contagious nature, it would not, I conceive, have been confined so entirely to one of the tents belonging to Hompesch's hussars; but from the free intercourse that it obtains among soldiers, it would have spread itself through the army in all directions. On the contrary, from its appearing chiefly in the Delta, where, from the nature of the soil, and the numerous streams of water, which flow through the country, the low grounds are poachy and wet, we have more reason to impute it to miasmata. Admitting this to be the true cause, we shall be at no loss to account for its appearing so frequently among the cultivators of rice, or the lower inhabitants at Cairo and Alexandria, since the poor generally reside in moist and dirty places. In both cities the exhalations are greatly multiplied, by the custom in Egypt of watering the streets, and their operation is rendered still more certain, from sleeping at night on terraces, in the open air. It is important to repeat, that a great proportion of men employed on the night duty before Ghiza, returned to their quarters with ophthalmia and ulcers in the fauces. Though we should have great difficulty in explaining this fact, from any of the causes to which this disorder has been attributed, we can easily reconcile it to our notions of miasmata; since

it has been observed in all countries, that exhalations are most powerful and dangerous in the night. With the nature of effluvia, we are at present so little acquainted, that, for aught we know to the contrary, the human body is exposed to as great a variety of noxious emanations, as of pestilential contagions."

*Part the First* of the pamphlet before us is appropriated to "an enquiry into the nature of the soil, and the circumstances which induce and prevent the rot; in which it is attempted to prove, that *marsh miasmata* are equally the cause of agues, remitting fevers, &c. in the human subject, and of the rot in animals."—That *miasmata* are uniformly the primary cause of the rot in sheep, is the position, to the establishment of which the whole of Dr. Harrison's arguments tend. He enumerates twelve species of animals, *viz.* sheep, cows, horses, asses, hogs, deer, hares, rabbits, geese, pigeons, turkeys, and poultry, which are subject to the rot; considering, also, that dogs are not entirely free from it. "Poor clayey and loamy lands," he observes, "are most subject to rot," the water stagnating on them, and being only removed by evaporation. "Grounds," he says, "that are always dry, or always under water, and such as are wet enough to preserve a continual run and circulation, were never known to suffer from the rot."—"Grounds newly laid down for pasture, or ploughed fields, exhausted by repeated crops, where the sward is thin, and the water remains in places for want of proper outlets, are peculiarly subject to rot. In such situations there is nothing to ward off the gleams of the sun's rays. Evaporation is therefore copiously performed, and probably some of the water is decomposed, so as to generate in combination with other substances, the poisonous effluvia, called *miasmata paludum*, which occasion the rot in animals."

Dr. Harrison objects to an opinion holden by some, that the rot is caused by a vitiated dew, on the ground that, if it "were occasioned by the dew, it should appear equally on all lands; but since it is only to be found in certain places, and under peculiar circumstances," he thinks it cannot be attributed to this cause.

Considering that soft and continued rains are much more dangerous to sheep than violent storms, our author also opposes the idea, that the rot may be occasioned by swallowing the *grust*, which adheres to the grass after wet weather, or the overflowing of running water. He can easily believe, that particles of the soil may be swallowed by the sheep with their food, but does not conceive that such particles can destroy the texture and fabric of the liver.

As this disorder is confined exclusively to certain grounds, Dr. Harrison is of opinion, that it cannot depend upon any change of vegetation, or originate from the luxuriant and quick growth of plants, in hot moist seasons.

Against the notion that the rot is produced among sheep by their grazing upon certain herbs, Dr. Harrison contends, that several of the animals which are subject to this disorder refuse the plants alluded to, and he instances the important fact, that sheep have been known to acquire the disease by remaining only ten minutes on wet lands, a time too short for them to have taken any great quantity of the suspected vegetables. He thinks also, that if the disorder were pro-

duced by feeding upon plants, it would occur most in Spring or Summer, when the sheep are in the greatest vigour.

From a variety of points, which our author's professional knowledge has enabled him to discuss at considerable length, he is inclined to believe, that *flukes* are never the cause of the rot, though they are commonly to be found in its advanced stages.

The following passage, alluding to a friend of the author, seems to throw considerable light on Dr. Harrison's hypothesis:

"Mr. Harrison resides upon a considerable inheritance, which was formerly tenanted by his father, and grandfather. It consists of high and low lands of a loamy and tenacious nature. While a brook which runs through the farm remains overflowed, and the water continues upon the adjoining flat grounds, his sheep never suffer any inconvenience, though they are frequently obliged to wade for their provisions. As soon as the flood is subsided, the sheep can at any time be tainted in a quarter of an hour, while the land retains its moisture, and the weather is hot and sultry. The butchers are so well acquainted with the importance of this fact, that when my friend has disposed of any fat sheep, they are usually turned upon his rotten ground to make them thrive faster.

"Mr. Harrison has by judicious management laid the greatest part of his farm completely dry, and is now little troubled with the rot, unless when he wishes to give it to some particular animals. His neighbours, who have been less provident, are still severe sufferers by it, nor are their misfortunes confined to sheep alone. Pigs, cows, asses, horses, poultry, hares, and rabbits, become rotten in this lordship, and have flukes in their livers.

"Many years since, the grandfather of this gentleman removed ninety sheep, from a considerable distance, to his own residence. On coming near to a bridge, which is thrown over the Barling's river, one of the drove fell into a ditch, and fractured its fore-leg. The shepherd immediately took it in his arms to a neighbouring house, and replaced the limb. During this time, which did not occupy more than one hour, the remainder were left to graze in the ditches, and lane. The flock were then driven home, and in a month afterwards, the other sheep joined its companions. The shepherd soon discovered that all had contracted the rot, except the lame sheep; and as they were never separated upon any other occasion, it is reasonable to conclude, that the disorder was acquired by feeding in the road and ditch bottoms."

Our author presents some judicious observations relative to the prevention of the rot, concluding the *first part* of his performance with the following passage.

"I am of opinion, that the generation of noxious exhalations may be restrained in some measure by judicious husbandry, and by covering the ground with marl or lime. Whether the same object can be effectually obtained by animal manures or other means, is a matter concerning which I am not sufficiently informed; but since judicious drainage constitutes the basis of agriculture, and contributes essentially to the preservation of animal life, I would recommend this system to be vigorously prosecuted, in all moist situations."

The second part of the pamphlet before us exhibits a *History of the*

*Rot in Sheep*; which, on account of the useful information which it contains, we shall take the liberty of presenting to our readers. It is as follows:

"When in warm, sultry, and rainy weather, sheep that are grazing on low and moist lands, feed rapidly, and some of them die suddenly, there is reason to fear that they have contracted the rot. This suspicion will be further increased, if a few weeks afterwards the sheep begin to shrink, and become flaccid in their loins. By pressure about the hips at this time, a crackling is sometimes perceptible. Now, or soon afterwards, the countenance looks pale, and upon parting the fleece, the skin is found to have exchanged its vermilion tinge for a pale red; and the wool is easily separated from the pelt. As the disorder advances, the skin becomes dappled with yellow, or black spots. About this time, the eyes lose their lustre, and become white and pearly, from the red vessels of the tunica adnata, and eye-lids, being contracted or entirely obliterated. \*To this succeeds debility and emaciation, which increase continually till the sheep die; or else ascites, and perhaps general dropsy, supervene, before the fatal termination. These symptoms are rendered more severe, by an obstinate purging, which comes on at an uncertain period of the disorder. In the progress of the complaint, sheep become what the graziers call chockered, *i. e.* affected with a swelling under the chin, which proceeds from a fluid contained in the cellular membrane, under the throat.

"In five or six days after contracting the rot, the thin edge of the small lobe of the liver becomes a transparent white or bluish colour, and this spreads along the upper and lower sides, according to the severity of the complaint. Sometimes it does not extend more than an inch from the margin. In severe cases, the whole peritoneum investing the liver is diseased; and then it commonly assumes an opaque colour, interspersed with dark red lines or patches. The upper part of the liver is sometimes speckled like the body of a toad, to which it is said to bear a striking resemblance: round the ductus communis choledochus, and hepatic vessels, a jelly-like matter is deposited, which varies according to the severity of the attack, from a table spoonful, or less, to five or six times that quantity. Upon boiling,

\* When the shepherd determines to examine the eyes of a sheep, which ought to be done frequently, he should place it between his thighs, and hold the head with both hands. He then proceeds to raise the upper and depress the under eye-lid; by which means, the blood-vessels of the tunica albuginea are brought into view. When they are red, and in great numbers, the sheep is supposed to be in good health. The canuncula lacrymalis, and inner surface of the eye-lids, should be as red as the vessels on the eye-ball. If they are pale, and the veins are in small quantities, and faint-coloured, or livid, the sheep is in a debilitated state, or afflicted with the rot. In all cases, where the blood-vessels have entirely disappeared, the mutton is bad. By frequently examining the eyes in dangerous seasons, I conceive, shepherds might always discover the rot, before their sheep begin to shrink, and, consequently, in time to prevent any material injury to their profits. Where the demand is considerable, and the market is not far distant, the grazier may always turn the rot to his advantage, by keeping the tainted sheep while they continue to feed, and taking care to kill them immediately after they cease to thrive.

the liver loses its firmness, and separates into small pieces in the water, or remains soft and flaccid.

“ Several graziers and butchers, with whom I have conversed at different times, having observed that sheep are much disposed to feed during the first three or four weeks after being tainted, omit no opportunity of producing it to increase their profits. When the first stage is over, flukes begin to appear in the *pori biliarii*, the *ductus communis choledocus*; and in the gall-bladder. At first, the quantity of these creatures is small; but as the disease advances, they increase, and before death are often very numerous. In the last part of the complaint, they are sometimes to be found in the stomach, as well as in the intestines and liver. This, like the visceral disorders of the human body, may terminate in resolution—effusion—suppuration, or schirrus.

“ 1st, The complaint is said to terminate in resolution, when the inflammatory action goes off, without destroying the state and texture of the parts. However, I am strongly inclined to believe, that every considerable inflammation in the human body, and in other animals, although it ends in resolution, leaves behind it some remains, which may be discovered by an experienced anatomist. When the vessels are thrown into inflammatory action for a few days only, effusion commonly takes place, and the coats become thicker, and assume a buffy colour. These changes in the sanguinary system often continue through life, and lay the foundation of many chronic and incurable disorders. Sheep that recover from the rot, exhibit very different appearances after death, according to the severity of the attack; but the taint is seldom or never entirely removed. I was desired, within these few days, to look at the liver of an old ewe, that died fat, and contained fourteen pounds of suet in her body. The back part of the small lobe was dappled with whitish spots; the coats of the *ductus communis* and *pori biliarii* were considerably thickened, and more solid than usual. In colour, they resembled the human aorta in old people, and were full of flukes: in other respects, the liver appeared to be sound and natural. The butcher asserted, that the variegated appearance and alteration in the ducts, were occasioned by a slight taint of long standing, which had not been considerable enough to disorder the œconomy, or impair the health of the animal, sufficiently to prevent its feeding.

“ 2dly, When sheep die suddenly in the first stage of the disorder, an effusion of serum, or of wheyish coloured fluid, may be commonly discovered, in the cavity of the abdomen, and then the peritoneum surrounding the liver is generally covered with a membrane or coat of coagulable lymph. This form of the rot has been frequently confounded with the resp or red water, though it differs from the latter disorder, in the colour of the effused liquid, in being much less disposed to putrefaction, and in several other particulars.

“ 3dly, Abscesses in the liver exhibit another termination of this malady. They are seldom considerable enough to kill immediately; but, in consequence of the absorption of purulent matter from them, the sheep frequently waste away, and die heptical or dropical. When the collections are small, sheep will recover sufficiently to bear lambs, for three or four seasons, and afterwards become tolerable mutton.



"4thly, The most common termination is in schirri, or what the shepherds call knots in the liver. I have seen the whole substance of this important viscus so full of small roundish lumps, or schirrous bodies, that it was difficult to find any sound part in it. The first attack is unfortunately so very insidious, that the disorder is scarcely observable, before the animal begins to waste and lose flesh. In this advanced state, it is said to labour under the rot or pourriture\*, from overlooking the commencement of the disorder.

"Hydatides are observed to affect schirrous and purulent livers more frequently than others. When livers are much diseased, the butchers carefully conceal them from the public eye. To me, it is always matter of surprize, to find the mutton saleable in these severe cases. It shews, in an extraordinary manner, the accommodating power of living matter, which is able to maintain life, and increase corpulence, under such unfavourable circumstances. Shepherds and breeders, who make it a general rule to kill every sheep that becomes indisposed, from an opinion that very few of them ever recover from any illness, would do well to examine the livers and other viscera of slaughtered sheep. By such a practice, they would soon be convinced, that sheep are able to endure a great deal. I am persuaded, that the uniform mortality among them, proceeds more from ignorance, or erroneous treatment, than the inevitable tendency of their disorders. This inquiry would point out in a forcible manner, the necessity of encouraging some medical person of good reputation, and considerable experience, to turn his attention to the numerous maladies of these useful animals. The diseases of horses have of late years been regularly studied in most parts of Europe; but to Britains, surely no veterinary object is more deserving of encouragement than the management and health of sheep, with which our unrivalled commerce and national glory are so inseparably connected. "*Les plus grands medecins doivent rechercher avec soin la cause et le remede d'un mal, qui menace de détruire des animaux utiles à toutes les nations; et principalement à celles qui savent employer la laine pour les plus beaux ouvrages.*" DAUBENTON.

\* See Obs. et Inst. sur les Malad. des Animaux Domestiques.

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## HISTORY.

### National Transactions.

GREAT BRITAIN.

THE hacknied rumours of invasion are still afloat, but it is conjectured by many, that the convulsed state of the interior of France will so far divert the attention of Bonaparte, as to induce a postponement of the attempt. The Volunteer Bill has at length passed the House of Lords, and been returned to the Commons with several verbal amendments. In its progress, it has met with an uncommon degree of opposition, almost every clause having been contested in the Committee, and the House having frequently divided upon it. Government has expressed a wish, that the several

Volunteer Corps should go on permanent duty for a certain time. Some of the Corps will, from the necessary avocations of the members, be unable to comply with this request; but several of them have endeavoured to accede as nearly as possible to it, by binding themselves, under some fines, to attend drill for some hours each day, during a certain period. Many reports relative to a change of Ministers, are in circulation, but no definitive plan has been mentioned.

IRELAND.—The depreciation of the silver currency in Ireland, and the enormous rate of the exchange against that country, have lately excited much attention; but the Privy Council has at length adopted the measure of issuing silver tokens, of the intrinsic value of 11d. for shillings, which has allayed the irritations of the public mind. His Majesty has been empowered by Parliament to accept the offers of the Irish Militia; and a Bill is in its progress to raise an equal number in that quarter of the kingdom to supply the place of those who shall be removed. Mr. Corry has stated to the gentlemen who expressed their intention of becoming bidders for the Irish loan, that the loan for Great Britain this year would not exceed 10,000,000*l.* and that for Ireland, 6,000,000*l.* except in the event of invasion or some other extraordinary occurrence.

FRANCE.—Arrests, relative to the reported conspiracy against the First Consul, continue to take place in every department of the Republic, and also through the vassal state of Germany and Holland. A counter-revolution is much spoken of. On the morning of March 15, a party of French troops, who had passed the Rhine at Kehl, on the evening before, seized the young Duc d'Enghien (son to the Duke of Bourbon, and grandson to the Prince of Condé) at the village of Ettenheim, in the Electorate of Baden, and hurried him off to the castle of Vincennes, where he was immediately put on his trial before a military commission appointed to try the conspirators. The charges against him were, that he had borne arms against France, that he had offered his services to England, and had been employed by her, both in procuring intelligence, and in endeavouring to excite commotions in the interior of France; that he was at the head of a body of emigrants paid by England, and forming in the districts of Friburg and Baden; that he had fomented intrigues for a rising in the departments around Strasburgh; that he was one of those concerned in the conspiracy planned by the English for the assassination of the First Consul, and intended, in case of the success of that plot, to return to France. On all these charges he was found guilty by his judges, on the 21st of March, and at two o'clock in the morning of the following day, he was shot in the forest of Vincennes. The King of Sweden, it appears, was at Baden, when the arrest of this unfortunate Prince took place; and he immediately dispatched a courier to Paris, instructing his Minister there, conjointly with the whole Diplomatic Corps, to present a strong remonstrance to the Consul in his favour. This was accordingly done, but it failed of the intended effect. The arrest of the Duc d'Enghien, in a neutral territory, his summary trial, and immediate execution, have excited equal surprise and indignation wherever the accounts of the transaction have reached. On the 24th of March, the Grand Judge of France made a report, developing to secret correspondence, pretended to have been carried on between Mr. Drake, the English Minister at the Court of Bavaria, and an agent of his in France. According to this report, Mr. Drake had drawn up certain instructions for this agent, and commissioned him, besides obtaining intelligence, to procure the destruction of the powder-mills, and foment insurrections against the Consular Government. The agent, we are told, pocketed Mr. Drake's money, and amused him with a shew of intelligence; but communicated the whole business to the Police at Paris. Of the truth of all this, there is not a shadow of proof; but the official Report bears strong marks of fabrication; and, by the language of the Chancellor of the Exchequer, in the English House of Commons, can be considered in no other

light than as a forgery. The answers of the different diplomatic agents at Paris, to the circular letter which has been transmitted to them by Talleyrand, with a copy of the correspondence, are very curious documents. Those of the Powers immediately under the rod of France, express vehement indignation at the conduct of Mr. Drake; while those who are less under the yoke, confine themselves to some general reflections on the criminality of abusing the diplomatic character. It is said, that Buonaparte has insisted on the personal seizure of Mr. Drake: it is reported, also, that the Bavarian Minister at London has been instructed to demand that Gentleman's immediate recall; or, in the event of experiencing a refusal, to demand passports for his own return. Mr. Drake is daily expected in England. According to the *Moniteur*, General Pichegru, who had been seized as a conspirator, and was confined in the Temple, precipitated his own death, on the 5th of April, by twisting a stick so very tightly in his cravat as to strangle himself. That Pichegru is really dead, no doubt can be entertained; but, that he killed himself, is universally disbelieved. That man must be worse than a madman, who would prefer an ignominious death by his own hand to an honourable one which awaited him. Assassination has been at work.

SWITZERLAND.—Several departments of this unhappy and oppressed country, have recently exhibited symptoms of commotion.

EAST-INDIES.—The Mahratta war has taken a turn most decisively favourable to the English. The respective armies under the command of General Wellesley and General Lake, have been completely successful. Some splendid victories have been obtained; the enemy, having sustained immense loss, has been compelled to sue for a cessation of hostilities; the Mogul, the descendant of the mighty Tamerlane, has been restored to his former dignities; and it is thought, that by this time peace has been fully established. We have to regret, however, the loss of a number of meritorious officers and intrepid soldiers.

Ceylon.—In Ceylon we have experienced a happy reverse of fortune. The King of Candy, having with his main army attacked a body of our troops posted at Hangwelle, has been defeated with prodigious slaughter, and forced again to take refuge in his woods and mountains. Enraged at his defeat, he massacred several of his principal officers; and, in his retreat, set fire to the forests, which had even hitherto been held sacred by the former monarchs of Candy, and considered as their best fortifications. His principal magazines and stores, collected at Rowanelle, have been taken, as well as his whole train of artillery, and the Lascars who acted as engineers.

## Agriculture.

### AGRICULTURAL REPORT.

#### *Extract of a Letter from Northumberland.*

IN this part of the kingdom, the weather, after having continued very dry for many months, set in wet in the first week of November last, almost immediately after more than the usual quantity of wheat seed had been committed to the ground under the most favourable circumstances. It continued rather wet from that period till the beginning of December, when the farmer had scarcely finished the ploughing of his turnip fallows, till he had the mortification to behold his grounds covered with deep snow, which with moderate frosts, continued till about Christmas. The ploughing of strong and grass lands then commenced; the weather was generally wet, but very mild, and the pastures exhibited a verdure seldom observed at that season. About the middle of January, all field operations were again inter-

rupted by frosts and snow, and the farmer could scarcely employ his men and horses otherwise than in carting dung from the fold yards to the fields, where it is generally thrown up by forks, &c. to the height of five or six feet, no carts being taken upon the dung hill, as that practice retards, and sometimes totally prevents, fermentation. From that time, to the present date, the weather has generally been unfavourable for agricultural operations; a few days of frost and snow having been succeeded by heavy rains and sleet, in almost regular alternation; and till within the last week, the frosts have been so intense in some of the rather elevated parts of the country, as to prevent ploughing till afternoon. In the last week of February and beginning of March, we frequently had a *glimpse* of the sun, and under his genial influence, got some wheat sown upon patches of dry turnip-land. In most parts of the country, however, spring wheat could not be committed to the ground, and the *clean* fallows, which were too strong and retentive for turnips, and which were intended for drilled beans or peas, have, till within the last few days, been in a state altogether improper for the ploughs or harrows. The season being now too far advanced for beans, some farmers are preparing the driest parts of them for early gray peas; of these I last year had about ten acres drilled, and the spring and summer having been favourable for preparing and horse-hoeing, the land was brought into a proper state for wheat. I am now putting a few acres under the same management, but owing to this untoward spring, am apprehensive that, unless the summer prove uncommonly favourable for horse hoeing, the land will not be sufficiently cleaned and pulverized for wheat next autumn. Perhaps I may find that a crop of wheat after a bare fallow, would have been more valuable than the peas, and wheat after them. Scarcely any barley is yet sown in this quarter, and even on the driest lands, the sowing of oats is not finished. On strong and wet soils much of that grain is yet unsown, and, like great part of that already committed to the ground, will probably be poached in, in such a manner, as will be highly unfavourable to the succeeding crop, besides leaving a foul stubble. We cannot reasonably expect an early harvest, and in a late one, the cultivators of Scotland and the northern counties of England never reap a productive crop. Having had a few drying, though extremely cold, days, we anxiously hoped that the farmers of strong and wet lands would still be enabled to commit the remainder of their seed to the ground in middling condition. Unfortunately, however, the weather has again set in wet, and "the hope of the husbandman has failed;" this country now exhibits a dreary appearance. Turnips having become scarce, their prices rose to a height unparalleled in modern times, except in 1799 and 1800; and with a view of saving the lives of the ewes and lambs, almost all the new grasses and meadows, as well as the pastures, have been stocked, and are now reduced to a very brown state. This, together with the drough of last summer, which prevented the growth, and even the vegetation, of much of the clover and rye grass, will, in all probability, greatly affect the crops and prices of hay next season. The loss of lambs from the long woolled sheep, in the improved and inclosed parts of the country, has happily been but small; but as the sheep on the highlands (which are nearly all of the cheviot breed) have been much reduced in condition by the wetness and severity of the weather for the last four months, a very great loss will be sustained by our stock farmers, if the weather, during the lambing season (which will commence within a few days (does not prove uncommonly favourable. In most parts of the country, fodder is scarce, and it seems probable that an stock will meet a heavy sale at our fairs in the beginning of next month. Owing to the scarcity of turnips and the general want of food, our weekly market at Morpeth (which, I believe, is either the second or third in the kingdom for fat stock) has, for some weeks past, been extremely full, and prices have, in consequence, fallen considerably. Mutton, about a month ago, was at 8d. to 8½d. per lb. sinking the offal; now it will scarcely bring

7d. and beef has fallen from 8s. and 2s. 6d. to 7s. 7s. 6d. and 7s. 9d. per stone of 14 lb. *Ant.*

It seems the general opinion, however, that these articles will be scarce and high in price in May and June. Swine have been long, and still are, almost unsaleable. The prices of wheat and oats advanced a little in our markets a few weeks ago; at present they are not quite so brisk.—Wheats are 5s. 3d. to 5s. 9d. and some particular samples 6s.—Oats, 2s. 6d. to 2s. 10d.—Barley, 4s. 4d. to 4s. 6d. and some 2s. 8d.—Pease, 4s. to 4s. 6d., and Rye, 3s. to 3s. 4d. per Winchester bushel. The stock of grain in the hands of farmers is not great, but that in the granaries of the corn merchants is supposed to be very considerable. Except for oats and pease, these prices are much below what the growers can now afford to sell for; and even if they could obtain 6s. 8d. to 7s. 6d. per bushel for wheat, and 4s. to 4s. 4d. for barley, I am of opinion, that in most situations, they could not (after charging legal interest for their capital) make a profit of much, if any thing, above five per cent per annum, which is much lower than that obtained in mercantile and manufacturing concerns, and certainly ill calculated to retain the present, which less to attract additional capital to the first and most important of all the arts.

Pray, Sir, be so good as to inform us what has become of all those *beaps* of bank notes which the restriction on cash payments at the Bank of England was to raise in all parts of the country, to enhance the price of provisions, and whether you can devise any means of getting a greater part of them into the hands of those "*rascally* farmers, corn-merchants, millers, bakers, monopolizers, and fore-stallers," who, by their wonderful, or magic power, (according to the news-paper writers in Great Britain and Ireland,) can raise the prices of grain to any pitch they please; for though farmers do not wish to see corn higher than about one half of the enormous prices obtained a few years ago, yet we are *very anxious* for such as will enable us to make a fair and reasonable profit, after payment of the *extreme high rents, taxes, wages, &c. &c.* with which we are burthened. Vast numbers of farmers believed, on the renewal of the war, that grain would immediately advance rapidly in price. But Sir, when they advert to the present state of the corn-markets, and to the circumstances of butchers meat having attained the highest price *during the late interval of peace*, they are now pretty generally of that opinion; which their inferior crops ought to have confirmed before; namely, that the adverse seasons of 1799 and 1800, and not the war, &c. caused the high prices obtained in these years.

The news-papers convey to all parts of the country much sooner than your publication; the intelligence in those parts of your Magazine, called national transactions, and list of bankrupts, &c. I therefore beg leave to suggest the propriety of omitting them, and to offer *a succedaneum*.

I humbly conceive, Sir, that this letter, notwithstanding its imperfections, will be more interesting to agriculturists in general, than the articles I have mentioned; and I should be glad to find that some of the East Anglians, and your other correspondents, would employ a leisure hour in adding a half a quarter sheet to their letters, rather than in censuring other friends to your valuable work for taking too much room in your collection,

I am, Sir, yours, &c.

AGRICOLA NORTUMBRIENSIS.

# KENT SOCIETY, FOR THE ENCOURAGEMENT OF AGRICULTURE AND INDUSTRY.

At a general meeting of this Society, holden at the Fountain Tavern, in the City of Canterbury, on Saturday the 31st of March, 1804,

HENRY GODFREY FAUSSETT, Esq. V.P. in the Chair.

Resolved, That this Society do, in general approve of the Resolutions of the *Essex Agricultural Society*, passed at a meeting held at the Shire Hall Chelmsford, on the 25th of February last, "for the purpose of taking into consideration the effect of the high duties on barley; the present operation of the Corn Act of the 31st of his Majesty, and other matters relative thereto;" and that the further consideration of the same be deferred to the anniversary.

Resolved,—That the following premiums be given at the ensuing anniversary.

#### CLASS I.—To Servants.

To two married and two single Servants in Husbandry, who have lived with good characters the greatest number of years (not less than five) and still continue with the same master or mistress, and shall produce satisfactory certificates.—Two Guineas each premium.

To one Female Servant in Husbandry, who shall have lived in the same service the greatest number of years (not less than five) and on the same conditions.—Two Guineas.

To one Boy in Husbandry, who has lived in the same service (being his first) the greatest number of years (not less than five) and still continues, and shall produce a satisfactory certificate.—One Guinea.

#### CLASS II.—To Labourers.

To Three Labourers in Husbandry, who have worked for the same master or mistress, the greatest number of years (not less than five) and still continue to do the same, and shall produce satisfactory certificates.—Two Guineas each premium.

#### CLASS III.—To Cottagers.

To three Labourers in Husbandry, who have brought up the greatest number of their own legitimate children (not less than six) to the age of six years, in habits of honest industry, with the least assistance from their respective parishes.—Two Guineas each premium.

Resolved,—That the sum of Three Guineas be given to the owner of the best Cart Stallion (bred in Kent) and produced at the anniversary; and that Two Guineas be given to the owner of the second best produced.

Resolved, That the sum of Three Guineas be given to the owner of the best Bull kept for service in Kent, and produced at the anniversary, and that Two Guineas be given to the owner of the second best produced.

N. B. The Premiums will not be given without more than two of each sort are produced, unless they appear to the Judges appointed, to be highly deserving of them; and the owners of the above Horses and Bulls will be required to engage to keep them for public service during one year from the time of their receiving the premium.

Claimants for the above premiums are to send notice in writing to the Secretary, at least ten days prior to the day of Show, which will be on the 25th of May next.

Certificates for the three first classes to be sent to the Secretary also ten days prior to that day (blank forms of which may be had on application to the Secretary) accompanied by a recommendatory letter from a member.

The limits of this Society extend to all parts of the county of Kent.

ALLEN GREENELL, Sec. K.A.S.

#### Peterborough Agricultural Society.

AT the annual meeting of this Society, holden at the Angel Inn, on Wednesday the 4th instant, the following premiums were offered for the year ensuing, to persons resident within 20 miles of the city of Peterborough, viz

	£.	s.	d.
For the best two-shear rams	—	—	5 5 0
For the best shearing ram	—	—	5 5 0
For the best theave	—	—	2 2 0

For the best two-year old draught stallion	—	7	7	0
For the best stallion for hunters	—	5	5	0
For the best stallion for cart-horses	—	5	5	0

These premiums will be disposed of on Wednesday the 6th day of June next; and persons intending to become candidates, are desired to give ten days notice in writing to the Secretary.

The two last mentioned premiums will be confined to horses attending Peterborough market for the season.

For the best bull not more than two years old when shewn, and having been in the possession of the owner for six months at least, previous to his being shewn	—	£.	s.	d.
		7	0	0
For the best boar, not more than twelve months old	—	2	2	0

To the labourer in husbandry who has brought up the most numerous family without parochial assistance	—	3	3	0
To the labourer in husbandry who has worked for one master, or on one farm, the longest time	—	2	2	0

To the female servant who has lived the longest time with any one master or mistress in husbandry	—	2	2	0
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These premiums will be decided on Wednesday the 7th day of November next.

To the person who shall hollow-drain, with stone, the greatest number of acres, previous to the next Easter meeting	—	10	10	0
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To the person who shall hollow drain, with <i>brushwood</i> , the greatest number of acres, previous to the next Easter meeting	—	5	5	0
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No claim to be made for less than 20 acres of land benefited thereby. Notice to be sent to the Secretary on or before the first of March, 1805.

For the best fat two-shear weather sheep	—	3	3	0
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For the best fat shearing ditto	—	3	3	0
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The four last premiums to be disposed of at the next Easter meeting. The sheep to have been fed with grass, hay, cole, or turnips, and not to have had corn or oil. To be shewn by persons who have bred and fed them, and to be shorn, killed, and weighed on the day. No two shear-sheep weighing less than 30 lbs. per quarter, and no shearing less than 24 lbs. per quarter, to be entitled to the premium.

By order.

Peterborough, April 17, 1804.

J. HOOK, Secretary.

### Agricultural Experiments.

Advantages of deep ploughing for potatoes at Michaelmas, 1802. Mr. Gardiner, of Boldre, took possession of about eighty acres of arable land that had been exhausted by a tenant. Sixty acres had been under white corn successively for five years; the last crop, principally wheat, slight enough as may be supposed, and a full crop of every sort of turnipery. The soil is naturally of a deep strength loam. As soon, therefore, as rain enough has fallen to allow the plough to go to the desired depth, Mr. Gardiner broke it up full ten inches deep, burying by means of skim-coulter, all the stubble and turnipery. In this state, forty acres of it were left till the beginning of April. The ground was crumbled quite fine, and there was not a very full appearance of weeds. It was laid in four boat-lands of about six feet. The second week in April, a double mould board-plough was run along the centre of each ridge, and had cuttings of the white globe potatoe, set about 9 inches apart, by women and children following the plough. All the dung that could by any means be scraped together, was taken from out of a cart that went down the intervals, and was spread with a prong lightly and sparingly over the potatoes, and covered with earth, by a common light plough.

About a hundred cart loads of dung, (of thirty bushels each,) covered in this manner, about thirty acres, together with twelve bushels of potatoes an acre to plant it. For the remaining ten acres, Mr. Gardiner

had no dung, and therefore planted them the same way without it. During the summer, he three times ploughed the six feet intervals, run the scufflers twice down them, and once hand-hoed the rows of potatoes. Notwithstanding the dryness of the summer, the haulm continued green and vigorous, and in the whole forty acres few weeds was to be seen. Having propoied a pit to store them up the last week in September, and continued so doing until the first week in November. They were dug up with prongs, for which, and for picking, he paid 2s. per bag, and sold them at 6s. per bag, for the whole crop, great and small.

The thirty acres dunged, produced on the average, ninety-seven bags per acre, or 291 bushels. The ten acres undunged produced to Mr. Gardiner's surprise, eighty-two bags per acre, or 246 bushels.

Mr. Gardiner adds, that in the middle of December last, the whole forty acres were as clean as a garden drilled at 11½ inches with wheat, and then in a very promising state.

The profit on these forty acres was 815l. 4s. 6d. which is more than 20l. per acre. Mr. G. attributes the great success almost entirely to the deep winter ploughing, and deep and good soil formerly marled.

On Friday, the 20th of April, a market was opened in North-Shields, for the first time, and a very considerable quantity of grain was exposed for sale, which brought advanced prices, viz. wheat 48s. to 52s.; fine 54s.; oats 24s. to 26s. per quarter; fine flour 40s. per sack. A sample of fine Friesland oats was sold at 25s. per quarter. Although the day was unfavourable, yet a great variety of wares were exhibited for sale, and the market numerously attended. At noon, a salute of cannon announced its full establishment.

William Thatcher, Esq. of Whackland, in the Isle of Wight, has nine ewes, which have this season brought twenty-eight lambs, all alive, in one week.

Mr. Meadows, of Salcey Forest, Northamptonshire, has now in his possession an ewe, that has yeaned fifteen lambs in four years; in 1801, she had three; in 1802, four; in 1803, four; and on Saturday, the 21st. of April she yeaned four more, all heathful lambs.

Mr. John Christian Curwan, of Cumberland, has made very extensive experiments on the use of steamed potatoes as a substitute for hay for cattle, which has been taund to answer his most sanguine hopes. This gentleman has brought the method of steaming potatoes to considerable perfection, and for two seasons has fed sixty horses upon them, with the addition of a very small quantity of straw. The horses during the whole time were in the most excellent condition. He has also given steamed potatoes to milch cows and other cattle. This method of feeding is of very great importance, both for its cheapness, in comparison with hay, and as a substitute in case of a failure in the hay crop. The process for steaming the potatoes, and the advantages attending this method of feeding, may be found described by Mr. Curwen himself in the 21st volume of the Transactions of the Society for the Encouragement of Arts, manufactures, and Commerce.

Mr. Bartley, of Bath, has been in the practice of feeding his ewes with potatoes raw and un mashed. This has been found to answer extremely well. He continued to feed his sheep in the proportion of two pounds and a half to each ewe every morning. They improved rapidly, and would readily have taken a greater quantity, but it was found that if more was given it would endanger their lambing. As the lambs dropped, they were supplied more liberally to increase the milk. This method of feeding sheep, Mr. Bartley thinks, will become general when it is known, and it would, probably, result from well conducted enquiries that it might with advantage be substituted for the turnip.

The Rev. W. Gooch, of Cockfield, Suffolk, is appointed by the board of agriculture to write a new report of the husbandry of the county of Cambridge, and he is now taking a survey for that purpose.



The latter end of March the celebrated Hertfordshire ox, bred and fed by Mr. Turner, of Aymestry, which has been admired by every breeder who saw it, was killed. The following is a correct statement of its weight;

			score lb.
First fore quarter	—	—	28 0
Second ditto	—	—	27 9
First hind ditto	—	—	20 14
Second ditto	—	—	21 8
			<hr/>
Cake of fat	—	—	97 0
Hide	—	—	12 1
			<hr/>
			3 10

Total 112 11

**PIG FATTENING.** It is a common prejudice that the profit of pigs consists in their eating all the refuse, and partaking in no degree of what is valuable for the farm and family. Mr. Whittle did not fat his prize pig in that way, nor was this hog, which nearly doubled the weight of the former, rendered substantial by such offal trash. Pigs must receive, besides the waste stuff of the family, sound and costly diet; they must be treated with the greatest cleanliness; and whatever proverbial vulgarity may say, cleanliness is as natural to them, as to the human species. Not only this, they must have comfortable accommodations, good warm lodging; and when the proper regard is paid to these particulars, the voraciousness of their habits will abundantly repay the breeder in the food they consume, and the attention they require.

In summer pigs fatten quickly; and the stores are so cleanly kept, that this may be called the pig-keeping season. Grazing pigs is losing time. In the stubble and corn seasons, they should, however, be kept abroad, and few of them will quickly repay the expence of the attendance.

Norfolk and Suffolk farming is so great a favourite, that we are apt to transplant its absurdities as well as its excellencies; hence pigs of those counties have been highly esteemed. They are small and thin eared; but their only good quality is become very prolific. Those of Herefordshire and Shropshire are liable to no objections; they are purchased about Michaelmas by the farmers of the hundreds of Essex, from those shires. They give for them about a guinea per head; and the following year the animals are disposed of, out of the clover and stubbles, to the London salesman, something under four guineas a-piece. Milk and corn are the profitable articles of pig feeding; an animal so fed repays his keep by the superior weight. Barley or oatmeal, with one-third of pea-meal, makes pork next in rank and goodness, to the milk-fed pork. Plenty of water is very necessary; indeed the cheapness of this liquid has made its nutritive properties little understood, and less willingly acknowledged. When their appetites are so satiated as to begin to decline, a little sulphur in their meat will soften its relish.

### *Farming Society of Ireland.*

The following premiums are to be given by this society at the Dublin Spring show.

On Tuesday next, April 10, viz.

Class		£.
1	For best fat ox, 6 years old, and upwards, in Spring 1803,	10
2	For ditto, 5 ditto,	7 10
3	For ditto, 4 ditto,	10
4	For ditto, 3 ditto,	10
5	For best fat cow or heifer, 6 years old, and upwards, ditto,	10
6	For ditto, 5 ditto,	10
7	For ditto, 4 ditto,	10

- 8 For ditto, 3 ditto, - - - £ 10  
 9 For best of the prize oxen, *the Silver Medal*.  
 10 For ditto, of the ditto, cows or heifers, ditto.

## SHEEP.

*Long, or Combing Woolled.*

- 11 For the best pen of five fat wethers, 2 years old in spring 1803 15  
 12 For ditto ditto 1 ditto 15

*Short, or Cloathing Woolled.*

- 13 For the best pen of five fat wethers, 2 years old, ditto 15  
 14 For ditto ditto 1 ditto 15  
 15 For the best pen of five native Irish short woolled ewes 5  
 16 For the best wether exhibited, the Silver Medal.

The production of the native Irish sheep is intended as an experiment to determine how far they deserve the attention of the Society. They will not, therefore be disqualified for want of merit, provided their wool is of a good quality.

## SWINE.

- 17 For the best fat pig, 3 years old, or upwards 10  
 18 For ditto, 2 ditto 10  
 19 For ditto, 1 ditto 10  
 20 For the best fat pig, 6 months old, but not exceeding one year 10  
 21 For the best of the prize swine, the Silver Medal.

## CONDITIONS.

1 Each candidate, or the person appearing for him, must enter his stock with the Secretary, in their proper classes, on Monday, the 6th day of April, before 5 o'clock in the afternoon; and must at the same time deliver a certificate in the form following, viz.

"I, do certify that the produced by  
 for the premium in class the property of and was old  
 and been fed the last months in the following manner."  
 Here shall follow the statement of the mode of feeding for the last six months, which must be stated.

2 The stock will be received on Monday, and will not be admitted later than ten o'clock on Tuesday morning.

3 The cattle must be rendered tractable, and led by a strong rope or chain to prevent accidents. No beast will be admitted, unless this regulation be strictly complied with.

4 The sheep are to be exhibited in their wool on Tuesday, and shorn on Wednesday.

5 No person shall enter more than one lot in the same class.

6 The premiums will be adjudged on Wednesday, and all the prize stock must remain to be inspected till one o'clock on Thursday.

7 Such animals as the judges require shall be slaughtered.

8 In any case where doubt may arise, the committee shall decide.

9 The judges shall be sworn, and no person shall act as a judge who is interested in the decision, or who is a candidate for any premium. There shall not be more than three judges for each description of animals.

## INSTRUCTIONS TO THE JUDGES.

You are to decide which is the best animal or animals in each class, having regard, in forming your judgment, to the excellence and utility of form, quality of flesh, lightness of offal, propensity to fatten, and early maturity. Also in sheep, to quantity and quality of wool. Having signed your adjudication you are not afterwards to propose any change, nor to mention your decision, till announced by the Committee. You are not to disclose the opinions of each other, and the decision of the majority previous to your report shall be conclusive. You shall withhold the premium where there shall not appear to be sufficient merit. You shall number the lots in each class in the order of their merit.

*Howden Agricultural Society.*

The Committee of this Society have directed the following premiums to be adjudged for the year 1804.

To the best coach-horse stallion which shall be shown at Howden, on Saturday the 14th of April, with restriction to attend one day in the week, at Howden,			£.	s.	d.
The best aged bull	—	—	5	5	0
The best two year old bull	—	—	5	5	0
The best one year old ditto	—	—	3	3	0
The best two year old heifer	—	—	2	2	0
The best one year old ditto	—	—	2	2	0
The best aged ram	—	—	1	1	0
The best shearing ram	—	—	5	5	0
The best boar	—	—	2	2	0

Certificates of the ages will be required.

The bulls, rams, &c. to be shown at Howden, on the last Saturday in July next.

N. B. The premiums for the year 1803 were adjudged,

To Mr. Thomas Wood's fat ox.

To Mr. William Scholefield's fat cow.

To Mr. Greenwood's stallion, Careless.

To Mr. Waterworth's aged bull.

To Mr. Blanford's 2 years old bull.

To Mr. Waterworth's 2 years old heifer.

— 1 year old ditto.

— aged ram.

To Mr. Mould's shearing ram.

To Mr. Waterworth's, jun. shearing ewe.

To Mr. Barker's tup lamb.

To Mr. William Scholefield's boar.

By order of the Committee,

Howden, April 2, 1804.

SHOFFORTH JUN. and PIERSON.

*Norfolk Agricultural Society.*

The following premiums are offered by this Society, to be adjudged at the next general meeting at Swaffham, on the day preceding the Wool Fair at Thetford. No claim for any of which can be allowed, unless it shall have been made in writing, and delivered to the Secretary, at least one week before the next meeting of the Committee, which shall be on Wednesday the 6th of June.

For the encouragement of breeding stock in Norfolk.

1. To those persons who shall produce the best shearing rams of the Southdown, Leicester, or Norfolk breeds; for each of the respective breeds, being the best in competition, a piece of plate of Five Guineas value; or, without competition, of Three guineas value.

2. To those persons who shall produce the best pens of shearing ewes, consisting of three each, of the Southdown, Leicester, or Norfolk breeds; for each of the respective breeds, being the best in competition, a piece of plate of Five Guineas value; or, without competition, of Three Guineas value.

N. B. The fleeces of the rams and ewes must be produced at the same time.

3. To those persons who shall produce the best fleeces of Southdown, Leicester, or Norfolk wool; for each of the respective sorts, being the best in competition, a plate of Two Guineas value.

4. To those persons who shall produce the best heifer, two years old, the best cow, not more than four years old, or the best bull three years old, for each a piece of plate of Five Guineas value.

5. To those persons who shall produce the best boar or sow, for each, not exceeding two years old, a plate of Two Guineas value.

For the encouragement of Shepherds in Norfolk.

To those shepherds who shall be found to have, upon any day within a fortnight before the 6th of June, the greatest number of lambs, in proportion to their number of ewes, certified according to the form of a certificate, to be had by applying to the Secretary, and returned to him at least one week before the 6th of June, a premium of

Two Guineas

Three Guineas

Four Guineas

Five Guineas

And Six Guineas, if the number of ewes was six hundred or upwards.

*Searing, March 31, 1804.*

If the number of  
ewes put to tup  
did not exceed

Two hundred,

Three hundred,

Four hundred,

Five hundred,

H. JOHN PARKER, Secretary.

### *Agricultural Society of the Hundred of West Derby, 1804.*

EDWARD WILLIAM BOOTLE, Esq. President.

THOMAS ECCLESTON, Esq.

RICHARD GIVILLYNE, Esq.

THOS. PARKE, Esq.

Mr. JAS. OKILL,

Mr. JAS. WARRING,

The Rev. JOHNSON FATLOEK,

*The Objects of this Society are,*

#### CLASS I.

To obtain the best practical information on subjects of agriculture, and to extend the knowledge of it through the hundred.

#### CLASS II.

To excite a spirit of emulation and improvement, by the offer of premiums, as well honorary as pecuniary.

#### CLASS I. omitted.

#### CLASS II.—For improving High Roads.

To the acting surveyor or surveyors of the high roads, township, or division of a township, in this hundred, who shall have made the greatest improvement in high roads, proportioned to the means. A Silver Cup, value Eleven Guineas.

It is recommended to Surveyors of roads, to have the thistles and weeds growing on the sides of the highways carefully cut down and destroyed, and to have the hedges neatly trimmed and cut low, and to have the courses opened. Particular attention will be paid, in adjudging the reward.

#### CLASS III.

Premium 1. To the person who shall inclose and improve, in the best and most effectual manner, the greatest quantity of waste and uninclosed land, not being less than forty acres. A Silver Cup, value Seven Guineas.

Pr. 2. To the person who shall effectually drain and inclose the greatest quantity of peat, moss, clay, &c., not being less than 20 acres, after the most approved manner. A Silver Cup, value Seven Guineas.

Pr. 3d. To the person who shall regain the greatest quantity of land from the sea or rivers; and most effectually release the same from the effects of the stream or tide, not being less than ten acres. A Silver Cup, value Seven Guineas.

Pr. 4. To the person owning or occupying land adjoining to the sea or a river, who shall, in the most effectual manner, secure the greatest length of the shore, proportioned to the force of the water or stream on the depth of the shore or bank, and not being less in length than 200 yards, so as to prevent the earth from being wasted away by the violence of the water. A Silver Cup, value Seven Guineas.

#### CLASS IV. *For draining, marling, and ploughing.*

Pr. 1. To the person who shall drain the greatest quantity of inclosed ground, not being less than twenty-five acres, after the best and most approved method. A Silver Cup, value Seven Guineas.

Pr. 2. To the person who shall drain, in the most effectual manner, with stone or brick, the greatest quantity of land, not being less than ten acres. A Silver Cup, value Five Guineas.

Pr. 3. To the person who shall drain the greatest quantity of land with sods or turf, in the most effectual manner, not being less than 20 acres. A Silver Cup, value Five Guineas.

Pr. 4. To the person who shall marl, in the most approved and judicious manner, the greatest number of acres of moor, moss, or heath, not less than thirty acres. A Silver Cup, value Ten Guineas.

Pr. 5. To the ploughman who shall, between the 1st of May, 1803, and the 1st of May, 1804, plough, in the best and most approved manner, with any plough that goes with a pair of horses only, the greatest number of acres, not less than ten. Five Guineas.

Pr. 6. To the ploughman who shall plough, within the same time, and in the same manner, but *without a driver*, the greatest number of acres, not less than ten. Five Guineas.

#### CLASS V. *Manuring and Watering.*

Pr. 1. To the person who shall raise the greatest quantity of good compost, and shall therewith cover the greatest number of acres, in proportion to his farm, such farm not being less than thirty acres. A Silver Cup, value Five Guineas.

Pr. 2. To the person who shall, in the most judicious manner, lay a quantity of peat earth, with a sufficient mixture of lime, pot-ash, soaper's waste, dung, &c. on not less than ten acres. A Silver Cup, value Seven Guineas.

Pr. 3. To the person who shall improve the greatest quantity of meadow and pasture land, not usually overflowed in time of flood, by throwing water over it in the most equal and judicious manner, the quantity of land not being less than ten acres. A Silver Cup, value Seven Guineas.

Pr. 4. To the person who shall improve the greatest quantity of land, not being less than ten acres, by sowing and ploughing in any green crop. A Silver Cup, value Seven Guineas.

#### CLASS VI. *For the Invention and Improvement of Implements of Husbandry, for the Discovery of Compost, and for Experiments on Grasses, and on Summer Soiling Cattle.*

Pr. 1. To the person who shall invent or improve any implement of husbandry, that shall be most useful in saving labour or expence; simplicity and cheapness of construction being deemed essential parts of its merits. A Silver Cup, value Seven Guineas.

Pr. 2. To the person who shall produce to the Society, at their July meeting, a one-horse cart, which shall be most approved of for strength, lightness, and cheapness of its construction, and for its general fitness for use, both in the fields and on the roads. A Silver Cup, value Five Guineas.

Pr. 3. To the owner and occupier of any farm, who, in proportion to its size, and the usual number of draught-horses worked upon it, not being less than three, shall employ the greatest number of single-horse carts, (as in the foregoing premium) in his husbandry business. A Silver Cup, value Five Guineas.

Pr. 4. To the tenant and occupier of any farm, who, in proportion to its size, and the usual number of draught horses worked upon it, shall employ the greatest number of single-horse carts, in his husbandry business. A Silver Cup, value Five Guineas.

Pr. 5. To the person who shall discover the cheapest and most productive sort of compost for grass-land. A Silver Cup, value Five Guineas.

Pr. 6. To the person who shall make the best experiment on different native grasses. A Silver Cup, value Five Guineas.

Pr. 7. To the person who shall make and report to the Society at the July meeting, the most satisfactory experiments to ascertain the advantages of summer foaling horses, cattle, or hogs, with green food, in stable, houses, sheds, or littered yards, compared with feeding the same in the common manner. A Silver cup, value Seven Guineas.

N. B. The account must specify the numbers of each, foiled; the effect on such stock; the quantity of food eaten; and the land fed; with the quantity of litter used, and the dung, and the value of the dung made.

The premiums will be adjudged in July.

April 6, 1804.

WM. STANISBREET, Secretary.

## BANKRUPTCIES AND DIVIDENDS,

*Announced between the 10th of March, and the 10th of April 1804.*

### BANKRUPTCIES:

*The Solicitors' Names are between Parentheses.*

BREWER, Thomas, Chippingham, linen-draper. (James,

Gray's Inn square

Buckley, William, New Delphi in Saddleworth, mer-

chant. (Batty, Chancery lane

Bradley, Joseph, Wilton, linen-merchant. (Millett

and Son, T. Trace, Gray's Inn lane

Brears, Robert, Middleton, Cotton-manufacturer. (Hurd,

King's Bench walk, Inner Temple

Carlier, John, and W. Wilkinson, Stockport, muslin-

manufacturer. (T. C. and C. Jackson, Walbrook

Clarke, Francis, Rochdale street, Rotherhithe, mariner.

(Mind, Great Preeton street, Goodman's fields

Curves, John, Cockermouth, horse dealer. (Blacklock,

Elm Court, Temple

Chateaufort, Louis, New court, Crutched friars, dealer

and chapman. (Swain and Stevens, Old Jewry

Challoner, Thomas, Liverpool, victualler. Wundie, Bart-

lett's buildings

Chadwick, Nathaniel, Bolton, innkeeper. (Foulkes, Bury

place, Bloombury

Clarkson, John, Thomas, Clarkson, and Christopher

Clarkson, Bedford, Linen manufacturers. Dynely and

Sons, Gray's Inn

Draper, Richard, Bishopgate, grocer. (James, Gray's Inn

place

Flick, Hamilton, Vancouver, Manchester, dealer in salt,

(Cheesbire and Walker, Manchester

Fowkes, John, Bath lane, wine and liquor merchant.

(Vandercook, South Lane, Cannon street

French, George, Great East Cheap, broker. (Atcheson,

Austin friars

Fletcher, John, Stockport, Silken. (Wadson, Bar-

row, and Grosvenor, Austin friars

Gill, George, Charles street, Berkeley square, fader.

(Greenwood, Manchester street

Gadden, James, Bishopgate street, cheesemonger.

(Bosurain, Union street

Graham, James, Fitzilly, watchmaker. (Piero,

Charles street, Cavendish square

Godfred, James, High street, Shadwell, hofeller. (Ath-

side, High street, Shadwell

Gordon, John, Peshawar, Painwick, clothier. (Consa-

ble, Symond's lane, Shadwell

Hague, Thomas, Cannon row, Westminster, money scriv-

ener. (Howard, Huggitts street, Covent garden

Harding, William, Middlehall, shopkeeper. (Giles, Great

Shire lane

Murdis, James, Seaford, apothecary and druggist (Rhodes,

Cook, and Handley, Clerkenwell

Nelden, William, Skirbeck Quarter, coal merchant. (Al-

ten and Exley, Furnace, St. James's lane

Marrison, Edward, Edingwood, wooldraper. (Evans,

Thavie's inn

Harries, John Owen, Swithen's lane, dealer in ale and

porter. (Eaton, Birchlane

Jeffreys, John, Clapham Road, printer. (Anthony,

Earl street, Blackfriars

Johnston, Hugh, Newcastle on Tyne, carpenter. (Cay-

son and Scott, Lincoln's inn

Ives, Chapman, Colindale, brewer. (Swain and Stevens,

Old Jewry

Lee, Henry, Shire lane, Temple Bar, victualler. (How-

ard, Jewry street, Aldgate

Low, Ralph, Kinderhook, miller. (Huxley, Middle

Temple

Martinet, Thomas, King street, wine merchant. (Co-

kayne and Taylor, Coleman street

Milburn, Edward, Cook, John Hollowell, and Thomas

Wainmley, North Shields, shipbuilders. (Atkinson,

Chancery lane

Makin, Julien, Bolton, cotton-manufacturer. (Chee-

sire and Walker, Manchester

Maxwell, Robert, George street, Minorities, ship broker.

(Hall and Bell, Bow lane, Cheapside

No Need, Bartholomew, Great Sutton street, Clerkwell,

watchcase maker. (Robinson, Chancery square

Newbold, John, Manchester, draper. (Foulkes, Bury

place, Bloombury

Pearces, Phineas, Worcester, grocer. (Barker, Gray's

Inn

Pickering, John, Jun. Runcorn, miller. (Wainwright,

Hare court, Temple

Parker, James, Narrow wall, Lambeth, victualler.

(Druce, Billiter square

Proctor, John, Seal, cornfactor. (Wright and Pickering,

Paper buildings, Temple

Phillips, Philip Jones, Oxford street, upholsterer. (Pearce

and Dixop, Paternoster row

Pink, William, (commonly called William Field) and

John Birch, Charles street, Grosvenor square, optician.

(Richardson, Bury street, St. James's

Richardson, Joseph, Fehrlin, ironmonger. (Ireland,

Staple's inn

Roberts, William, Hammermith, coal merchant. (Fet-

terts, Holborn court, Gray's Inn

Rookley, Thomas, Bridgewater, baker. (Blake, Cooke's

court, Carey street

Raven, William, Colchester, Linendraper. (Forbes,

Ely place

Smith, John, and Robert Smithies, Pool, papermaker.

(Allen and Exley, Fumival's inn

Schultz, William, and Philip Hunger, (trading in the

firm of Schultz and Co.) Winchester street, Broad

street, merchants. (Wilder, Jun. Bartlett's buildings

Smith, William, West Bromwich, butcher. (Derwent

Tooke, Gray's Inn square

Stevenson, Archibald, Margaret street, Cavendish square,

engine maker. (Burgoyne and Fielder, Duke street,

Grosvenor square

Sergeant, Francis, Wakefield, innkeeper. (Batty, Chand

erry lane

Stanton, Samuel, Birmingham, timber merchant. (Egert-

on, Gray's Inn

Simons, Solomon, Lyne, Silversmith. (Pearce and

Dixon, Paternoster row

Trok, John, New Sarum, cutter. (Carruthers, Jun. Cle-

ment's inn

Tarner, Richard, Birmingham, upholster. (Pearce and

Dixon, Paternoster row

Winder, Thomas, and William Jewthitt, Wedminster

Bridge road, iron founders. (Bigs, Hatton Garden

Wall, Thomas, Bristol, common brewer. (Tarrant and

Mouie, Chancery lane

Wingate, Thomas, Market Raisin, Linendraper. (John-

son and Gaskill, Gray's Inn

Yend, Henry, Upton on Severn, currier. (Watts, Sym-

onds inn

### DIVIDENDS ANNOUNCED.

ALLEN, Peter, Nantwich, innholder, April 19, final

Alpsall, Edward, Wigan, calico manufacturer, April 18

Alford, Fitzbert, Southwark, wooldraper, May 15

Burrows, And Farmer, Middle row, Milliner, April 25

Barnes Edmund Leicester, wooldraper, May 5

Bunter, Matthew, Penry, licendraper, May 15, final

Barley, George, and Charles Lalield, Little Trinity near

merchants, April 18

Rance, John, Abingdon, ironmonger, May 2

**Quinn, John, Peter Lane, painter, May 5**  
**Quinn, Peter, Union Court, Broad Street, merchant, (surviving partner of Robert Quinn), April 21.**  
**Crabtree, Peter, Warwick, victualler, April 21.**  
**Currie, Michael, and James Henry Alexander Scott, Watling Street, wine and brandy merchants, separate estate of Currie, May 5**  
**Clark, Andrew, Liverpool, merchant, April 30, final**  
**Crispin, Charles, Theobalds, Bow Lane, Merchant, May 9**  
**Croft, Abraham, Zetland Dock, Lanes, merchant, May 1**  
**Croft, Joseph, Southwark, chafferage, May 10**  
**Cole, Robert, Woodford, cordwainer, May 18**  
**Cummet, John, Royal Spa Gardens, victualler and musical instrument maker, May 5**  
**Curr, Ralph Wood, and Robert Carr, Leeds, dryfathers, May 10, final**  
**Campbell, Barnabas, Princes Street, Hatchiff Highway, insurance broker, May 10**  
**Cornhill, John, Butcher, Deptford, May 18**  
**Cowen, George, Newton Town, oil and colourman, May 18**  
**Carverright, John Newton, dealer, May 10**  
**Davis, John, Fullwood's Rent, Holborn, victualler, May 5**  
**Donohoe, Thomas, Prefect Street, merchant, April 27**  
**Day, Benjamin, Bishop Street, draper, May 5**  
**Dayton, John, Carlisle, victualler, May 5**  
**Deahli, Robert, Wilton cum Twambeckes, merchant, May 14**  
**Dobson, Henry, Godmanchester, miller, and Edward Dobson, Swamp on, miller, May 16**  
**Fox, George, Henrietta Street, Covent Garden, tailor, April 14**  
**French, Henry, Broad Street, St. Giles's, cardmaker, April 21**  
**Fowler, William, Bedford, and Matthew Samuel Haynes, Grenville Street, insurance broker, separate estate of Fowler, May 12**  
**Fowler, John, Bewdley, printer, May 5**  
**Heander, John, Cable Street, Whitechapel, carpenter, April 28, final**  
**Hook, James, and William Tunner, Bridge Foot, Westminster, coal merchants, separate estate of Hook, April 28, final**  
**Houlings, Joseph, Loughwood, Halifax, dealer, April 13**  
**Harding, Mary, and John Harding, Swanburne, dealer, May 1**  
**Hardy, William, Virginia Street, master-mariner, April 28, final**  
**Hopwood, David, Union Street, Mary-le-bonne, grocer, April 10, final**  
**Harrison, Thomas, Jas. Landford Hall, timber merchant, May 10**  
**Hutchins, John, Worthington, fall maker, May 12**  
**Jacob, William, Poole, shopkeeper, April 17**  
**James, Benjamin, Northampton, bootmaker, April 30**  
**Jones, Samuel, Bilfil, pawnbroker, May 21, final**  
**King, Thomas Prefect, West Cowes, linen draper, April 21**  
**Kierpatrick, Thomas, Church passage, Cateaton Street, April 28**  
**Lake, William, (partner with John List) Bishopsgate Street, merchant, April 27**  
**Leveridge, William, Shorehitch, cabinetmaker, April 17**  
**Meredith, Michael, Finsbury Square, merchant, (partner with John Lide, Jun. of Finsbury), April 21**  
**Malcom, Samuel, Old Broad Street, broker, April 17, final**  
**Mare, Hutchins, Robert Mure, and William Mure, Finchurch Street, merchants, May 12**  
**Massey, Charles, New Street, tower, wharfinger, May 20**  
**Math, Thomas, Warwick Street, Plumber, April 17**  
**Pierce, John, Broad Street, warehouseman, May 20, final**  
**Pachover, Maria, Ipswich, woollen draper, May 8, final**  
**Pierpoint, John, Sunhill row, carpenter, May 18**  
**Richardson, Thomas, water-side, Scotchman, merchant, May 17, final**  
**Reid, George, Birmingham, merchant, April 28**  
**Bowling, James, Red Lion Street, hardwareman, May 15**  
**Robt. William, late of Washington to America but now of Liverpool, merchant, May 10**  
**Robt. Henry (late partner with William Robt) Liverpool, merchant, May 10**  
**Roberts, Edward, Bedford Court, woollen draper (trading in the firm of Boyden and Roberts), May 12**  
**Scott, Charles Elliott, Upper Berkeley Street, bookbinder, March 26**  
**Scarf, James Robert, King's Lynn, brewer, April 28**  
**Secker, Mary, Lynn, linen draper, April 28, final**  
**Spring, John, Birmingham, linen draper, April 22**  
**Spender, William, Birmingham, draper, April 27, final**  
**Smith, Richard, late of Whitechurch, money scrivener, April 15**  
**Somerville, James, Liverpool, merchant, May 12**  
**Serie, John, Shipton Mallet, clothier, June 8**  
**Self, Stephen Haleworth, corn merchant, May 14**  
**Standish, Samuel, Porteford, hatter, May 14**  
**Thomson, William, Serie Street, mariner, April 21**  
**Thomson, Andrew, and Bartholomew White, Bow Lane, wholesale buyers, April 28**  
**Thomas Thomas (partner with John Hunter and Peter Latham) Camomile Street, Merchant, May 11**  
**Tanner, Nicholas, St. Decuman's, maltster, May 7**  
**Toulmin, Oliver, Essex Street, navy agent, April 17**  
**Wilde, James, John Watts, and John Bodley, Upper Thames Street, wholesale grocer, April 21**  
**White, William (partner with John Jarvis) Southampton buildings, brandy merchant, April 14**  
**Witney, Francis, (otherwife Nicholas) Woodmancoate, Currier, April 13, final**  
**Woodle, Thomas, Trump Street, warehouseman, May 15**  
**Wilson, Richard, Broad Street, merchant, May 5**  
**Willy, John, Oxford Street, trunk maker, May 15, final**  
**Warner, Henry, Bristol, basket maker, May 19**  
**Youngshades, William, Colchester, draper, April 21**

### Prices of Raw Hides, Hay and Straw, &c. for April, 1804.

Raw Hides.		First Week		2d Week		3d Week.		4th Week.	
		s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
Best Heifers & Steers, pr ft.		3	8 to 4	0	0 to 0	0	0 to 0	0	0 to 0
Middling	—	3	4 to 3	6	0 to 0	0	0 to 0	0	0 to 0
Ordinary	—	3	0 to 3	2	0 to 0	0	0 to 0	0	0 to 0
Market Calf	—	10	6	—	—	—	—	—	—
Eng. Horse	—	14	8 to 17	8	— to —	8	— to —	8	— to —
Sheep Skins	—	4	0 to 7	0	0 to 0	0	0 to 0	0	0 to 0
Lamb Skins	—	2	6 to 3	6	0 to 0	0	0 to 0	0	0 to 0
Prices of Hay and Straw.		l. s. d.		l. s. d.		l. s. d.		l. s. d.	
St. James's—Hay	—	4	16	0	4	15	0	4	16
Straw	—	1	14	0	1	14	0	1	13
Whitech.—Hay	—	4	15	6	4	18	0	4	17
Glover	—	5	13	0	5	15	6	5	15
Straw	—	1	14	0	1	17	0	1	18
Newbury.		42s to 58s 0d		42s to 57s		40s to 57s 6d		40s to 59s	
Wheat	—	20s 0d to 24s		21s to 24s 6d		21s to 26s		24s to 27s	
Barley	—	20s to 26s		19s to 26s		20s to 26s		21s to 26s	
Oats	—	—s to —s		—s to —s		—s to —s		—s to —s	
Beans	—	—s to —s		—s to —s		—s to —s		—s to —s	
New ditto	—	—s to —s		—s to —s		—s to —s		—s to —s	
Peas	—	—s to —s		—s to —s		—s to —s		—s to —s	
Salisbury.		50s to 54s		49s to 54s		50s to 56s		50s to 56s	
Wheat	—	—s to —s		—s to —s		—s to —s		—s to —s	
New ditto	—	21s to 24s		21s to 25s		22s to 26s		22s to 26s	
Barley	—	—s to —s		—s to —s		—s to —s		—s to —s	
Beans	—	20s to 24s		20s to 24s		20s to 25s		21s to 25s	
Oats	—	—s to —s		—s to —s		—s to —s		—s to —s	
Peas	—	—s to —s		—s to —s		—s to —s		—s to —s	

**Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for April**  
1804.

<i>Price of Hops.</i>		<i>First Week</i>		<i>2d Week</i>		<i>3d Week</i>		<i>4th Week</i>	
<i>Bags.</i>		<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>
Kent	—	100 to	114	100 to	118	100 to	118	96 to	118
Suffex	—	100 to	108	100 to	112	100 to	110	95 to	110
Essex	—	100 to	108	100 to	110	100 to	100	95 to	110
<i>Pockets.</i>									
Kent	—	108 to	128	110 to	130	110 to	130	110 to	126
Suffex	—	105 to	120	110 to	124	106 to	120	100 to	120
Farnham	—	160 to	189	130 to	168	130 to	200	160 to	200
<i>Seeds.</i>									
Red Clover per cwt.	—	40 to	86	40 to	86	40 to	30	50 to	76
White Clover, ditto	—	70 to	126	70 to	110	40 to	112	40 to	118
Trefoil, ditto	—	20 to	67	20 to	63	20 to	52	18 to	50
Caraway ditto	—	— to	73	— to	75	— to	75	— to	75
Coriander ditto	—	16 to	20	16 to	20	16 to	20	16 to	20
Turnip, (per bushel)	—	22 to	24	22 to	24	22 to	24	22 to	24
White Mustard Seed	—	6 to	7	8 to	9	8 to	9	8 to	9
Brown ditto	—	8 to	9	14 to	16	14 to	16	14 to	16
Canary Seed	—	14 to	16	6 to	7	6 to	7	6 to	7
Rape Seed, (per last)	—								
<i>Meat at Smithfield.</i>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
To fink the offal, p. ft. 8lb.									
Beef	—	4	4 to 5 6	4	4 to 5 8	4	4 to 6 0	4	4 to 5 8
Mutton	—	4	8 to 5 8	5	0 to 6 0	5	0 to 6 0	5	0 to 6 0
Veal	—	5	0 to 6 4	5	0 to 6 6	5	0 to 6 6	4	8 to 6 0
Pork	—	3	4 to 4 4	3	8 to 4 8	3	8 to 4 8	3	8 to 4 8
Lamb	—	0	0 to 0 0	0	0 to 0 0	0	0 to 0 0	6	0 to 8 0
Head of Cattle—Seafs about		1,800		1,800		1,800		1,600	
— Sheep		7,500		8,500		8,000		7,500	
<i>Price of Leather.</i>		<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>	<i>d.</i>
Butts, 50lb. to 56lb. each		21	to 21½	21	to 21½	21	to 22½	21	to 22
Ditto, 60lb. to 65lb. each		23	to 24	23	to 24	23	to 24	23	to 24
Merchants Backs	—	—	to 28	—	to 21	21	to 21½	21	to 21½
Dressing Hides	—	22	to 23	22	to 23	22	to 22½	21	to 22
Fine Coach Hides	—	23½	to 24½	23½	to 24½	23	to 24	22½	to 24
Crop Hides for cutting	—	22	to 23½	22	to 23½	22	to 23½	22	to 23½
Flat Ordinary	—	21	to 21½	21	to 21½	21	to 22	21	to 22
Calf Skins, 30 to 40lb. p. doz.		28	to 32	28	to 32	28	to 32	28	to 34
Ditto, 50lb. to 70lb. do.		27	to 33	27	to 33	28	to 33	28	to 33
Ditto, 70lb. to 80lb. do.		27	to 30	27	to 30	29	to 30	29	to 30
Sm. Seals (Greenland)		48	to 54	48	to 54	48	to 54	48	to 54
Large do.		51	to 71	51	to 71	51	to 71	51	to 71
Tanned Horse Hides		208	to 328	208	to 328	208	to 348	208	to 348
Goat Skins per doz.		—	to —	—	to —	—	to —	—	to —
<i>Price of Tallow.</i>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
St. James's Market	—	4	8	4	2	4	2	4	3
Clare Market	—	4	3	4	2	4	2	4	3
Whitechapel Market	—	4	2	4	2½	4	2½	4	1½
Per stone of 8lb. Average		4	2	4	2	4	2	4	2½
Town Tallow	—	71	6	—	0	72	0	71	6
Russia ditto (Candles)	—	72	0	71	0	71	0	71	6
Russia ditto (Soap)	—	71	0	70	0	69	6	70	3
Melting Stuff	—	60	0	57	0	58	0	59	0
Ditto rough	—	42	0	42	0	40	0	40	0
Graves	—	14	0	14	0	14	0	14	0
Good Dregs	—	11	0	11	0	11	0	11	0
Yellow Soap	—	80	0	80	0	80	0	80	0
Mottled ditto	—	84	0	84	0	88	0	88	0
Curd ditto.	—	88	0	88	0	92	0	92	0
Candles, per dozen,	—	11	0	11	0	11	6	11	6
Moulds	—	12	0	12	0	12	6	12	6



## LONDON PRICES OF GRAIN for April, 1864.

MARK-LANE, Monday, April 2.

WE had a large supply of Wheat in this day's Market, which occasioned a reduction of full 1s. per quarter. Barley comes to hand in abundance, but that article, and Malt, remain without any material variation. Pease fell heavily. Beans come sparingly to Market; but are not dearer. We have large arrivals of Oats, but the demand being considerable, prices are quite as high as last week.

Price of Grain, on board Ship, as under.

Wheat	27s to 54s	Malt	48s to 55s od	Grey Peas	27s to 31s od
Fine	54s to 56s od	Oats	17s to 23s	Beans, new	27s to 32s
Rye	28s to 31s	Polands ditto	24s to 25s od	Old ditto	—s 36s
Barley	19s to 24s od	White Peas	30s to 36s od	Ticks	24s to 29s

Monday, April 9.

Although the supply of Wheat for this day's Market was not great, it more than equalled the demand; a few fine samples reached last Monday's prices, but the faler, upon the whole, were dull, and at a reduction of 1s. per quarter on the fine, and more on the inferior sorts.—Barley is likewise cheaper: Malt the same. Both sorts of Beans are 2s. per quarter lower; and Pease of the different kinds have not amended in price since our last.—We have a tolerable supply of Oats, which sell at something under last week's figures. In consequence of the decline in Wheat, Flour is rather cheaper.

Wheat	26s to 52s	Malt	47s to 54s od	Grey Peas	27s to 30s od
Fine	52s to 55s od	Oats	17s to 22s	Beans, new	25s to 31s od
Rye	27s to 30s od	Polands ditto	23s to 24s od	Old ditto	34s od
Barley	18s to 23s od	White Peas	30s to 35s od	Ticks	23s to 31s od

Monday, April 16.

Although we had a tolerable supply of Wheat in for this day's market, the call was pretty brisk at first of the morning, and at rather better prices than last quoted; a heaviness, however, prevailed towards the close, and the sales finished at very little variation from last Monday.—Barley felt a little rise, and Malt fully kept its price. White Pease have rather declined, but Grey are dearer, having a short supply. The two sorts of Beans are rather cheaper; as are Oats, of which last mentioned article we have some foreign vessels arrived.

Wheat	28s to 52s	Malt	49s to 55s od	Grey Peas	28s to 31s od
Fine	53s to 55s od	Oats	17s to 22s	Beans, new	27s to 32s od
Rye	27s to 30s od	Polands ditto	23s to 24s od	Old ditto	32s od
Barley	18s to 23s 6d	White Peas	27s to 34s od	Ticks	24s to 32s od

Monday, April 23.

We have not had a large supply of Wheat for this morning's Market, and the fine has advanced full 1s. per quarter since our last; the ordinary and inferior sorts, nevertheless, are as dull and low as last Monday. With a middling supply of ply of Barley, we have a brisk sale, at one and two shillings per quarter dearer. Malt likewise finds ready sale, and at better prices. In other Grain, viz. Pease and Beans of both sorts, and Oats, they are all something dearer, as may be noted in the prices below.

Wheat	28s to 53s	Malt	51s to 56s 6d	Grey Peas	29s to 32s od
Fine	54s to 56s 6d	Oats	18s to 23s	Beans, new	28s to 34s od
Rye	28s to 31s	Polands	24s to 25s 6d	Old ditto	37s od
Barley	21s to 26s od	White Peas	28s to 35s od	Ticks	24s to 32s od

**AVERAGE PRICES OF CORN, by the quarter of eight Winchester  
bushels; and of OATMEAL, per boll, of 140 pounds Avoirdupois:**

*From the Returns received in the Week, ended APRIL 14, 1804.*

**INLAND COUNTIES.**

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	51	7	32	0	23	10	25	1	31	6	34	3		
Surrey	55	8	28	0	24	10	25	2	34	6	35	0		
Hertford	49	8	35	6	22	6	20	6	32	0	33	9		
Bedford	49	8	30	9	21	0	21	9	29	6	35	4		
Huntingdon	43	11			19	8	19	4	27	2	31	11		
Northampton	50	10	30	0	20	8	19	6	29	6	31	0		
Rutland	51	0			22	0	19	6	29	0			57	3
Leicester	54	0			25	1	19	6	24	5	30	1	35	4
Nottingham	55	8	30	0	26	8	21	0	33	6				
Derby	59	8			26	2	20	10	37	10	41	0	27	0
Stafford	55	7			26	9	22	1	42	6			32	6
Salop	50	9	39	2	27	6	23	4	44	5	45	9	63	7
Hereford	44	2	30	4	23	11	23	11	42	8	41	3	59	3
Worcester	49	10			27	4	27	4	40	5	40	8		
Warwick	54	9			27	7	23	10	37	7	50	0	41	8
Wilts	53	0			25	2	23	0	40	0	38	0		
Berks	53	3			23	0	24	1	34	6	33	2		
Oxford	49	4			22	10	21	8	31	7	34	11		
Bucks	51	5			21	8	22	8	31	8	38	9		
Brecon	48	0	32	0	24	0	31	4			36	8	32	1
Montgomery	48	11			22	4	16	6			38	5	36	5
Radnor	45	5			25	2	21	10						

**Maritime Counties.**

Essex	51	4	29	6	21	6	24	4	30	3	28	6		
Kent	51	6			23	9	26	0	31	6	36	0		
Suffex	54	2			25	0	25	6						
Suffolk	47	11			20	6	21	9	27	8	30	10	49	0
Cambridge	45	1			28	4	16	0	26	5	28	0		
Norfolk	45	10	25	3	19	2	18	3	26	9	28	11		
Lincoln	45	10	24	6	21	10	17	7	29	1				
York	46	11	32	8	22	5	18	11	32	2	51	4	39	3
Durham	46	8			26	8	20	3						
Northumberland	44	5	33	4	20	10	10	1	28	0			14	9
Cumberland	53	10	40	8	25	6	21	10						
Westmorland	50	12	40	0	26	10	21	2						
Lancaster	50	9			27	10	24	0	42	3	54	0	19	2
Chester	51	3			28	11							18	9
Flint														
Denbigh	55	1			26	2	20	4	41	8	35	3	35	7
Anglesea														
Carnarvon	58	8			24	0	16	4					36	7
Merioneth	52	5	44	0	27	2	20	5					33	10
Cardigan	52	0			19	0	13	7						
Pembroke	46	1			20	6	14	10						
Carmarthen	58	6			25	3	14	8						
Glamorgan	50	4			25	1	21	4						
Gloucester	48	3			23	10	23	7	33	7	35	6		
Somerset	50	5			24	9	18	10			44	0		
Monmouth	48	10			24	10								
Devon	54	7			25	3	20	8						
Cornwall	53	5			27	5	20	0						
Dorset	52	2			24	8	25	1	42	8	44	0		
Wants	52	3			23	3	24	6	35	10	38	0		

# **PRICES OF COALS AT THE COAL EXCHANGE, LONDON,** **For APRIL, 18c4.**

Name of Coals.	Mon. 19th		Wed. 21st		Frid. 23d		Mon. 26th		Wed. 28th		Frid. 30th		Mon. 2d		Wed. 4th		Frid. 6th		Mon. 9th		Wed. 11th	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Adair's Main													50	6	46	6						
Baker's Main																						
Bedford Main																						
Benton	50	6	55						45				47						47			
Biddick Main																						
Bigg's Main	53		56	6	54								49		49				49			
Bladon Main																						
Blyth	51	6																				
Boundry																						
Bourn Moor	49						48	6					45		45				45			
Brandling																						
Birtley																						
Byker																						
Byker, High & Low																						
Cowpen	52		55								Nothing done.				48			Nothing done			Nothing done	
Derwent																						
Eden Main			52																			
Eighton Main																						
Flockton																						
Greenwich Moor																						
Haigh Moor																						
Hartley	51	6					48	6					47	6	47	6						
Heaton Main	52	6			54				50				49		49				49			
Hebburn Main	52	6							50				49						49	6		
Holywell																						
Kenton Main	52	6											48						48	6		
Lambton's Low dit																						
Lawson's Main																						
Morley Hill																						
Montague Main																						
Mount Moor																						
Murton																						
Murton High Main																						
Newbottle																						
New Tansfield																						
Pitt's Tansfield M.													46	6					46	6		
Perry													50									
Pontop																						
Percy																						
Reftory																						
Ruffel's Main																						
Sheriff Hill																						
South Moor																						
Stanley Main																						
St. David																						
Team																						
Tyne Main																						
Usworth Main																						
Walbottle Moor																						
Walker	52	6					53		50				49	6	48				48	6		
Wall's End	53	6	57	6			54						50		50	6			51			
Warwick																						
Wharton																						
Willington													49		48				59			
Wylam Moor	46																					
Woolworth																						
Whitefield																						
Main Wooler																						

A TABLE of the Prices of STOCKS in March 1864.

	Bank Stock.	3 per Ct. Red.	3 per Ct. Confols.	4 per Ct. Confols.	5 per Ct. Navy.	5 per Ct. Loyalty.	Long Ann.	Short Ann.	Imp. per Ct.	Imp. Ann.	Irish pr. Cent.	Omnium	India Stock.	English Tickets.	Confols for Account
Feb. 27	152½	55½	55½	72½	88½	94½	16 3-8		54½	9 7-16			169	17 8 0	55½
28	153	55½	55½	72½	88½	94½	16 7-16		54½	9 7-16			169½	17 8 0	55½
29	154	56	55½	72½	88½	94½	16½		54½	9 7-16			169½	17 8 0	55½
1	153½		55½	73	88½	94½			54½	9 7-16			170½	17 8 0	56
2			55½	73½	88½	94½			55	9 9-16				17 10 0	55½
3			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
4			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
5			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
6			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
7			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
8			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
9			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
10			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
11			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
12			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
13			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
14			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
15			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
16			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
17			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
18			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
19			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
20			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
21			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
22			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
23			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
24			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
25			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
26			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
27			55½	73½	88½	94½			55½	9 9-16				17 10 0	56
28			55½	73½	88½	94½			55½	9 9-16				17 10 0	56

T. BISH, STOCK-BROKER, Old State-Lottery Office, No. 4, Cornhill, London.

## TO OUR CORRESPONDENTS.

**O**N account of the recent Death of THOMAS SKIFF DYOT BUCKNAL, Esq. Member for Saint Albans in the late parliament, it is necessary to mention that; he being the author of the papers signed Wheat & Sheaf in this magazine; they must unavoidably be discontinued. His object was to procure an Act, that cottagers might be supplied with a sum of money at seven and a half per cent. interest; in order, by their industry, to inclose the waste lands of the kingdom. At the same time that we signify our concern that any useful project should be impeded by so calamitous an event to the author, we acknowledge that the scheme could not receive our approbation; and that we inserted the communications rather with a view to have the matter discussed than to have the measure adopted.

We have received the continuation of the article from Asiaticus; which will be introduced into our next number.

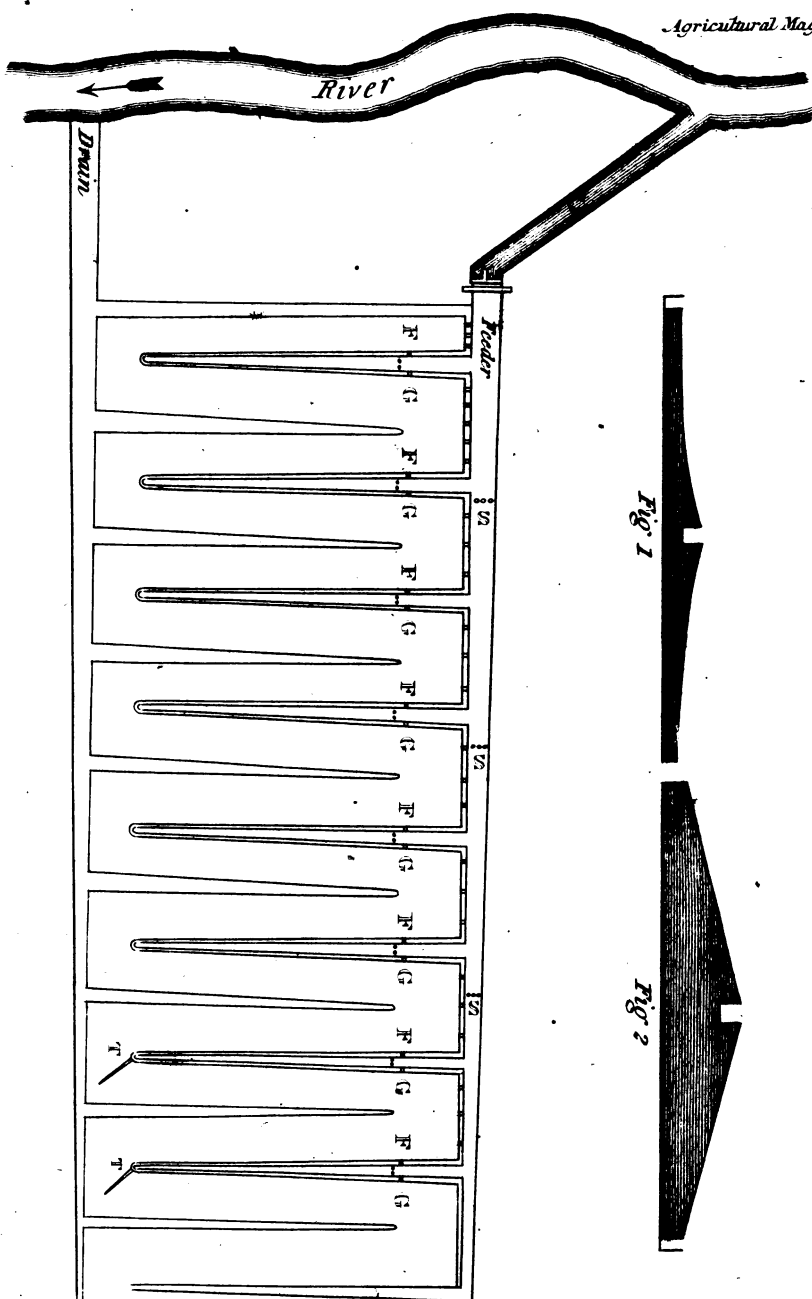
The paper from Rouen is received via Husum; and will be introduced into the next number. We hope the eight preceding volumes of the work were punctually received by the same channel, through the house of Messrs. Pierre, Fiancee, & Co. Booksellers at that place.

A Novice, in our next.

We invite the attention of our correspondents to the article from G. S. on the fine wool of Botany Bay, as we shall be happy to convey the earliest information on that important subject, which at present is so little known.

We wish to prove our gratitude, at all times, to the Secretaries and Members of those agricultural Societies who transmit to us their proceedings; but we wish to receive them at an earlier period of the month, Those of Howden and of the Hundred of West Derby, did not reach us till the 28th; consequently we could only insert them in part, and defer the remainder till our next.





# THE AGRICULTURAL MAGAZINE.

No. LVIII.]

MAY, 1804.

VOL. X.]

## METHOD OF FLOATING, BY WHICH ELEVATED LANDS MAY BE SUBJECTED TO IRRIGATION.

[WITH A PLATE ANNEXED.]

*To the Editor of the Agricultural Magazine.*

SIR,

THE method of floating hereunder explained, is so simple and beneficial, that I thought it would be acceptable to you as a continuation of the subject, introductory of your last number.

This plate represents a meadow regular in its surface with the current of the river, but too high to be floated from the part of the stream immediately opposite to it. In order therefore, to procure a fall, the water is taken out at a more elevated part of the stream by a conductor, as at C, into the feeder, which is cut along the highest parts of the meadow, and has a flood hatch in the mouth of it to admit or exclude the water at pleasure. This conductor we will suppose, for illustration, has only four inches descent in the whole length, but the stream in the same distance has ten inches fall, so that six inches of power are gained by means of the conductor, which is a fall abundantly sufficient to float a meadow. By this mode of gaining descent, thousands of acres may be floated which might be thought impossible to be done.

Fig. 1 and 2 represent a transverse section of two ridges, with their sides or beds an inclined plane. The floating gutters, or troughs, (marked F G) are drawn with double lines; and the stops in these and the feeder are denoted with small circles and the letter S. The drain cuts are described with single lines.

Exeter, May 5, 1804.

Yours, &c.

D. Y.

## ON THE RUTA BAGA AND MANGOLD WURZEL.

*To the Editor of the Agricultural Magazine.*

SIR,

I BEG leave to state a fact, which probably some of your readers may consider to be interesting.

In the Spring, 1803, a Swedish Nobleman, *Le Chevalier d'Edelcrantz*, a most intelligent agriculturist, made me a present of some seed of the Ruta Baga, or Swedish Turnip, a  
Ag. Mag. Vol. 10. T t



plant which is generally supposed to resist the inclemencies of our winters equal at least to any yet known as food for cattle; also a specimen of the Mangold Wurzel\* (*Racine de disette*) both then recently brought from the continent. The respective specimens were sown on the same day, and in a similar situation. The seedlings from both in due season were transplanted at proper distances, and proved equally promising till the succeeding winter, which indeed was not remarkably severe, but the ground in which they were planted was entirely overflowed at one period, by the waters of the Avon, sharp frost soon after following.

Towards last Spring I discovered the Ruta Baga evidently to decline, and at no great distance of time afterwards every one of the bulbs were completely reduced to a putrid pulp. †

I fully expected, *à priori*, that the Mangold Wurzel would have been the first to give way to hard weather, under any view of competition with the Ruta Baga. But in fact I lost not a single plant, nor scarcely a leaf. At this time they are all in a healthy and very vigorous state, and promise to produce an abundant crop of seed.

Many years ago, when Dr. Lettsom introduced the Mangold Wurzel to public notice, I began the culture, but the experiments received not the proper degree of attention, and consequently proved abortive. Having lately resumed this culture, I incline to think that, as a winter and spring food for cattle, the plant deserves all the praise ascribed to it by Dr. Lettsom.

Sheep, hogs, and neat cattle are fond of the leaves and root. It is easy of cultivation, suitable to any soil of moderate depth, not much subject to the ravages of insects in any stage of its growth, and yields a very large crop, amounting, under favouring circumstances, in some instances, to forty or fifty tons per acre.

Its subordinate uses would be for the table, root and foliage, no unpleasing variety, and, the excise regulations permitting, an elegant *Aqua Vita* might be extracted from a maximum crop, to the amount, perhaps, of two to three hundred gallons, (*import strength*) per acre.

On the continent ‡ I understand a *Colophony* of Sugar has been extracted with a certain degree of advantage, but the *Chevalier d'Edelcrantz* (now in Bath) informs me that, in the

\* Prussian Sugar Beet.

† This would not have happened in a dry healthy situation.

‡ When the Bulb is said to produce about 3 per cent. of its weight on the average in concrete Sugar. The writer has known it to produce a higher proportion.

process of refining, the most experienced artists have not hitherto discovered an *æconomical* method of crystallization. §

I remain, Sir, your obedient Servant,

NEHEMIAH BARTLEY.

*Bath, May 11, 1804.*

§ Since receiving the preceding paper, we have been favoured with a second letter from our intelligent Correspondent. He informs us that he has shewn a copy of the preceding communication to the Chevalier d'Edelerautz, who informs him that the German Chemists are acquainted with the means of crystallizing the Beet Sugar, and (in confirmation of what he stated above) "that the matter employed, (Alcohol) is much too expensive to answer commercial and general purposes." E.

## ON THE USE OF THE BAROMETER AS APPLIED TO AGRICULTURE.

*To the Editor of the Agricultural Magazine.*

SIR,

*Fakenham, April 25, 1804.*

**I**T has been long since justly observed by some author, I know not whom, that one seldom takes up a book of *any kind*, without learning something new, or enlarging his stock of ideas. Such at least I generally find to be my own case, and in this particular instance, I have certainly been benefitted, inasmuch as I have by accident fallen upon an explanation of difficulties, which have not a little puzzled and set wrong the plain farmer, however satisfactorily the philosopher may reason upon them. Dipping into the European Magazine for October, 1802, I met with "a dissertation on the use of the Barometer as applied to agriculture," signed OBSERVATOR. Its purpose is not so much, perhaps, to give a philosophical or even a plain account of those seeming inconsistencies which we notice in the rising and falling of the Mercury, as to mark the subsequent changes *we ought* to expect in the weather, which apparently contradict the prognostications of the *prophetic tube*.

I shall only extract such parts as relate more particularly to this subject, "The slightest observation will convince every man, that each year and the various seasons of the year, have a peculiar character as to rain, drought, heat, cold, &c.; and as the quality of the seasons has a most sensible effect on the productions of the earth, it is evident that it must be of the greatest advantage to the farmer to foresee the changes that may be expected, *because he can thereby regulate his labours accordingly.*" When the character of the season is once as-

\* How strongly this applies to the *drill system* in particular, almost all your readers will immediately feel, a little rain soon overturns the preparations of the week past; and the present season wet and unkind season will have effectually pointed out to the farmer, the advantage of foreseeing with tolerable

certained, the returns of rain or fair weather may be judged of with some degree of certainty; in some years, but scarcely guessed at in others by means of the Barometer; for in general we may expect that when the mercury rises high, a few days of fair weather will follow. If the mercury falls again in two or three days, but soon rises high, without much rain, we may expect fair weather for several days; and in this case, the clearest days are *after the mercury begins to fall*, (contrary to the general expectation, perhaps.) In the same manner, if the mercury falls very low with much rain, rises soon, but falls again in a day or two, with rain, a continuance of bad weather may be feared. If the second fall does not bring much rain, but the mercury rises gradually pretty high, it prognosticates settled good weather of some continuance when a heavy rain has fallen upon the mercury's sinking, and its continuing steadily low, the weather is sometimes fair and promises well; but no prudent farmer should trust to such appearances. There is, indeed, a caution, which every observer may profit by. When the mercury rises high in the barometer, the moisture on the surface of the earth disappears; this, even though the sky be overcast, is a sure sign of fair weather; but if the earth continues moist and water stands in shallow places, no trust should be put in the clearest sky, for it is in this case deceitful.

"In the latter end of March, or generally in the beginning of April, the barometer sinks very low with bad weather,\* after which it seldom falls lower than 29 deg. 5 min. till the latter end of September or October, when the quicksilver again falls low with stormy winds, for then the *winter constitution* of the air takes place. From October to April the great falls of the barometer are from 29 deg. 5 min. to 28 deg. 5 min. and sometimes lower; whereas during the *summer constitution* of the air, the mercury seldom falls lower than 29 deg. 5 min. It therefore follows from hence, that a fall of *one tenth* of an inch during the summer, is as sure an indication of rain, as a fall of between *two and three tenths* is in the winter.

"It must be observed that these heights of the barometer hold only in places nearly on a level with the sea; for experiments have taught us that for every eighty feet of nearly perpendicular height, the barometer is placed above the level of the sea, the quicksilver sinks one tenth of an inch. Observation,

accuracy the approach of rain. At this moment the barometer standing steadily at 29 deg. 4 min. foretells that the barley, *yet unsorted*, is likely to remain so for some time, unless other means than *criling* are resorted to; whereas the former part of this month has been peculiarly favourable to the operations of the drill machine.

\* This year is certainly an exception.

therefore, alone, must determine the heights of the mercury which in each place denote fair and foul weather.

"Very heavy thunder storms happen without sensibly affecting the barometer, and in this case the storm seldom reaches far: when a thunder-storm is attended with a fall of the mercury its effect is much more extensive. And here I must mention an observation which I have often seen verified; viz. that when the quicksilver falls very low, the weather continuing mild, and the wind \* moderate, a violent storm happens at that time in some distant places: this will account for a seeming false prognostic that the barometer has been often unjustly charged with."

To the foregoing observations, Mr. Editor, which I have reason to believe are tolerably correct, I have little more to add, than in general to remark that a barometer is, in my opinion, as useful an appendage to an agriculturist, as almost any of his implements, for unless his operations are conducted with an *observant eye* to the present or *probably future state* of the *weather*, as well as soil, the produce of his labours will fall short of his expectations, or (what is equally fatal to him) will suffer from ill-timed, though otherwise commendable exertions to *house* it.

However fickle this our climate may be, (and our fathers insist on its being more so at this day than when they were boys) still I believe the truth of the assertion, "that Great Britain, the year throughout, is blessed with a larger portion of weather in which the open air may be enjoyed, than falls to the lot of any other country under the sun." This being granted, with joyful hearts may we apply Horace's "*O fortunati Agricolaë*," to ourselves, and be thankful to Providence who thus ordereth our seasons. Our chief concern is to make the best use of them, and whether ploughing, sowing, reaping, or harvesting, be the order of the day, to be particularly observant of the means put into our hands of ascertaining the best times for each operation, and above all, never to pass by a *present opportunity*.

By way of appendix to this trifling essay, allow me to copy from the same work (Europ. Mag. Dec. 1802) the following recipe for the cure of flies on turnips, as trifling, perhaps, as my essay: for I confess my incredulity as to the efficacy of such a preventative. "To a quart of turnip seed add one ounce of brimstone, finely powdered; put both into a bottle, large

\* OBSERVATOR has been guilty, I think, of a very great omission in his remarks, in taking no notice whatever of the effects which *heat, cold, or wind* have respectively upon the glass, independent of the *arid or humid* state of the atmosphere. Perhaps one of your numerous correspondents could supply the deficiency; for without such further information, I acknowledge the present communication must remain a very imperfect director to the inquiring student of barometers.

enough to afford room to shake them well together every day, for four or five days previous to sowing, keeping the bottle well corked." There is another offered, but it is only a repetition of the very stale story of elder-leaves; I shall not therefore burden your readers with it.

I am, Sir, Yours, &c. &c.

AGRICOLA NORFOLCIENSIS.

**METHOD OF QUICKLY PRODUCING FRUIT FROM TREES  
DISPOSED TO RUN TO WOOD, OF OBTAINING GOOD  
SHOOTS, AND OF IMPROVING THE TIMBER TREES.**

*(Continued from page 210.)*

6. IF the second year the tree or branch upon which the operation has been performed, is not covered with a sufficient quantity of fruit buds; make in the spring a new excoriation either on the same place as that of the preceding year, or in any other. In case of necessity, it may be repeated at the beginning of each succeeding spring, till the tree or branch be found sufficiently fruitful.

There will seldom be occasion to repeat the operation. The first wound is usually efficacious, and the tree plentifully covered with fruit the second year.

7. If the operator be fearful of making the wound too large, and that it will not be closed before autumn, he may make it very narrow; and if before the mouth of Mesidor the new ring or skin have reached the edge of the lower bark, a little more of the latter may be taken away at the same time, recollecting, that the increase of the skin is extremely small after the two first months.

This process employed in this manner, with the precautions I have stated, is infallible, quick in its effects, and not attended with any injury or inconvenience.

8. In pruning fruit trees, it is of no use to cut out the luxuriant wood, or to endeavour by means of pruning to divert the sap. They should be suffered to grow freely for a year, but the following spring the bark may be cut away at the base of each of these branches, and thus by interrupting the course of the descending sap, you will obtain from them excellent shoots, and frequently fine early fruit.

9. When a shoot is grafted, the sap which it contains descends, and forms at the bottom a skin which issues from between the wood and the bark. On this skin rise small protuberances, each contains a ligneous fibre, proceeding from the stem of the shoot: this fibre increases in length, and becomes a root. Substances of a drying nature frequently kill the shoot during the temporary exhaustion by the descent of the sap for the formation of the skin and roots, and before those roots

have derived nourishment from new juices. If only such shoots be grafted which have the skin formed at their base, the roots will strike out at an earlier period, the shoots will not be so long deprived of sap, and they will be sure to thrive, being only a short time exposed to the action of destructive matters.

Conformably with this principle in the spring of the year 9, (1801) I grafted several branches which I had left on an apple tree trained as an espalier. In the spring of the year 10, (1802) the grafts had grown very much, and the branches had increased so as to be two centimetres in diameter. From the bottom of the earth, I took away the bark for the space of two centimetres, not wishing the wound to cicatrise. A skin of about three millimeters in breadth was formed on the upper edge, and the same year the branches bore a great quantity of apples, which would have ripened, had they not been blown off by a violent wind.

These branches are two metres in length, and have shoots branching from their tops; I cut them this autumn (1803) below the ring, taking care not to injure it, and planted them without taking off any of the small branches. They are very green; the buds are already large; I hope they will form standard trees.

This process of the annular excoriation may be employed with success to hasten the maturity of grapes a fortnight or three weeks, and to ripen grapes trained on a trellis, which often remain unripened to the end of the season.

The fruits of trees or branches on which this operation has been performed are always earlier by 15 or 20 days, and larger than those produced by trees that have not undergone the operation. May not this be the method employed by the hoary philosopher, described by Virgil? He had discovered the secret of obtaining the earliest roses in the spring, and the earliest fruits in autumn.

*Primus verè rosam atque autumnò car pere poma.*—GEORG.

In confirmation of the above statements, I shall relate some of the experiments made by me. As the subjects of them, I selected healthy trees fourteen or fifteen years old, planted in open ground in a light and rather damp soil, some of which had several times flowered, but never borne any fruit, most of them never having produced buds for fruit.

It was in the spring of the year 9, (1801,) that I made all the annular excoriations of which I am about to state the results.

Experiment 1. On the 12th Mesidor, year 10, (1802,) I gathered ten very juicy and perfectly ripe apricots from a branch of a tree submitted to the annular excoriation. At that time the apricots on the rest of the espaliers were still small and green, and the earliest were not ripe before the 30th Mesidor. The branch from which I had pared the bark was four centimetres in diameter; it bore twice as many

apricots as the other branches of the same espalier of equal magnitude; its fruit was one third larger and earlier than that of the rest of the tree, by 18 days.

Experiment 2. In the spring of the year 9, (1801,) I pared away the bark from the bottom of one out of two branches forming the head of a standard apple-tree. The other branch of equal extent and thickness with the first, and forming the other half of the tree, was not put under this experiment. That year, like all the preceding, without exception, there was no fruit on either of the branches.

In the spring of the year 10, (1802,) the young shoots were nearly of equal size on both the parts of the tree, and I cut out none of them.

On the 20th Mesidor, on that part of the tree subjected to the experiment, there were thirty apples, principally on the young branches which bent beneath the weight. One of those apples taken at random weighed nine ounces; the only apple that was at the same time on the other branch, weighed only two ounces.

The young branches on that side of the tree not having undergone the operation, had grown out one third larger and thicker than those on the side where the excoriation had been made.

Experiment 3. On a very healthy apple tree that had never borne fruit, and was divided into four branches, equal in size and extent, I made in the year 9, (1801) two annual excoriations on two of the branches. That year there was no fruit, because there were upon the tree no fruit buds forming the preceding year. The young wood grew nearly equally on all the branches of the tree.

In the spring of the year 10, (1802) I pruned one of the branches on which I had made the annular excoriation; and one of the others, leaving the new wood on the two remaining branches.

1. I observed that the branches submitted to this operation and pruned, had produced very few shoots, and that these were both short and small. The branch which had not undergone the operation and pruned, had produced a great number of vigorous shoots.

2. The young shoots, left on the other branch submitted to the operation, had increased very little in their dimensions, while those of the branch on which I had not operated, had grown very much.

3. The two branches on which the operation had not been performed produced no fruit; of the two other branches, that which had been pruned bore fewer apples than that not pruned, the young shoots of which were covered with fruit.

I am, Sir, Yours, &c.

*April 14, 1804.*

ARBUSTIVUS.

## COMPARISON OF AGRICULTURE IN THE COUNTIES OF PERTH AND NORTHAMPTON.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N the progress of your work, you have occasionally introduced remarks on comparative agriculture, and I must acknowledge, that the farming of my own country has been sometimes depreciated. It has been my lot to see something of the practice both in England and Scotland, and without any disposition to undervalue the attainments in the former, or to over-rate the talents in the latter, I have extracted the annexed comparative view of farming in one of the best of your provinces, and on that portion of my native territory with which I am most acquainted; and I shall submit it to the attention of your respectable and intelligent readers without a single additional observation, confident that while they are disposed to do justice to the County of Northampton, the soil and practice of the Carse of Gowrie will not be despised.

*Perth,  
March 23, 1804.*

I am, Sir, yours, &c.

A SCOTTISH FARMER.

### ROTATION OF CROPS.

#### IN NORTHAMPTONSHIRE.

The old enclosed lands are generally kept in a state of pasturage.

The open field lands, at least that part of them which is considered proper for tillage, is under a constant course of corn-cropping, as follows, viz.

1st year, fallow or turnip.

2d — wheat, part barley.

3d — beans, with a few acres in oats.

The newly inclosed lands are principally employed in the cultivation of grain, and cropped in the manner under mentioned, viz.

1st year, fallow, part turnip.

2d — wheat, barley after the turnip.

3d — beans and peas,

*Ag. Mag. Vol. 10.*

#### IN PERTHSHIRE.

On the rich lands in the Carse of Gowrie.

1st year, fallow.

2d — wheat.

3d — beans or pease.

4th — barley, with 20lb. clover red and one bushel rye grass.

5th — clover.

6th — oats.

On the lands adjoining, the following rotation is adopted.

1st year, pease, or other green crop.

2d — wheat.

3d — barley, with grass seeds, as above mentioned.

4th — clover.

5th — oats.

On the enclosed land.

1st year, turnip.

2d — barley, with 8lb. red clover, 8lb. white, 4lb. rib.

U u



4th year, barley, with 18lb.  
red clover.

5th ——— clover.

6th ——— ditto.

7th ——— part beans and part  
oats.

grass, and 1 or 2 bushels rye  
grass.

3d year, grass, generally  
made into hay.

4th, 5th and 6th, pasture.

7th, barley.

8th, oats.

#### LABOUR, &c.

##### IN NORTHAMPTONSHIRE.

Butcher's-meat, from 4d. to  
5d. per lb.

Poultry, from 1s. 2d. to 1s.  
4d. each.

Eggs, from 6d. to 8d. per  
score.

Butter, from 8d. to 10d. per  
lb.

Cheese, from 4d. to 5d.  
per lb.

The wages of a ploughman  
from 8l. to 10l.

A young man or boy, from  
4l. to 5l.

A female servant, from 3l.  
10s. to 4l. 10s.

A day-labourer, in summer,  
without board, from 1s. 2d. to  
1s. 4d.

Ditto in winter, 10d. to 1s.  
A man for the harvest-month,  
from 2l. 2s. to 2l. 10s.

A woman by the day, 1s.  
without board.

Grain is threshed at from  
1s. 3d. to 2s. 6d. *per* quarter.

When the ploughmen re-  
ceive board-wages, it is gene-  
rally at the rate of 6d. the week  
all the year round; but they  
are maintained in bed, board,  
and washing in the farmer's  
family.

The ordinary breakfast and  
supper is cold meat, with bread  
and cheese; and for dinner,  
either roast or boiled meat,

#### LABOUR, &c.

##### IN PERTHSHIRE.

Butcher's meat, from 3d. to  
4d. per lb.

Poultry, from 1s. to 1s. 4d.  
each.

Eggs, from 6d. to 8d. per  
dozen.

Butter, from 6d. to 8d. per  
lb.

Cheese, from 2½d. to 3½d.  
per lb.

The wages of a ploughman,  
from 8l. to 10l.

A young man or boy from  
3l. to 4l.

A female servant, from 3l.  
to 4l.

A day labourer in summer,  
without board, from 1s. to 1s.  
2d.

Ditto in winter, 8d. to 10d.  
A man for the harvest work  
(which is generally finished in  
20 working days) receives a-  
bout 11. 5s. and a woman a-  
bout 17s.

Grain is threshed at from  
1s. 4d. to 1s. 8d. *per* quarter.

When servants are boarded  
in the farmer's house, the or-  
dinary fare is, for breakfast  
and supper, *pottage* made of  
oatmeal, salt, and water, which  
is eaten with milk. For din-  
ner, *soup*, or as it is provin-  
cially called, *broth*, made with  
pot-barley, vegetables, and  
butcher's-meat. But the more  
general practice is to give each

with pudding. Ale is allowed them on many occasions, and small beer they have always at command.

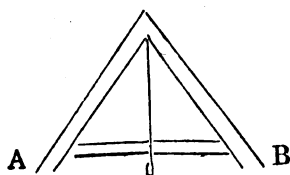
Labour commences about the same hour at the different seasons, in each of the counties.

ploughman a certain allowance of oatmeal, (about 36 ounces a day) and three pints of sweet milk, or double that allowance of butter-milk. They lodge and eat in a house disjoined from the farm-house, and cook their own victuals.

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*For the Agricultural Magazine.*

### DESCRIPTION OF AN IMPLEMENT FOR TAKING THE LEVELS FOR WATERING GROUND.



**I**T is one of those implements that are more adapted for use than show; but which, as being perfectly within the reach of every man, both in respect to its price and the manner of using it, I consider of inestimable value. It has been already recommended to the notice of the public by the respectable President of the Board of Agriculture, but it can never be too generally known.

It consists of two legs of deal, about 12 feet long, joined together at top, and below connected by a cross bar, as represented above. From the angle at the top is suspended a plummet, by a small cord, and a mark being made in the middle of the connecting bar, it is plain, that when the two legs, A and B, are level, the string of the plummet will strike the mark on the bar, and not otherwise; so that the level is thus very easily ascertained.

The method of using it is thus. At the level of the water where you are to begin, drive a pin into the ground, on which one of the legs of the frame can rest, then bringing the other leg round till it touches the ground on a level with the top of that pin, there drive in another pin, and having adjusted the level perfectly, make use of this last pin as a rest for the one foot, and turn the other about till you find the level in the same way; and so on you proceed, following always the direction that thus will be indicated. In this way you discover at once, without trouble the precise direction your water course

should hold, without being at the expence of digging through heights or filling up hollows.

If you mean to conduct the water perfectly level, you have only to follow the pins thus placed implicitly. But if it is your intention to give the canal a certain degree of declivity, say a quarter or half an inch or more, in twelve feet, instead of wooden pins, in this case make use of one pin of steel, having the inches, halves, and quarters marked on the sides regularly, from the square top downwards. Having provided at the same time a number of wooden pins cut neatly over at top, quite square; after having fixed your iron pin quite level with the first, drive a wooden pin into the ground close by it, making the head of it go a quarter or half an inch lower than the top of the iron pin. Then pulling out the iron pin, and employing the wooden pin as a rest for one of the legs, put the iron pin in once more for the other leg, and driving a wooden pin into the ground again at a quarter of an inch lower, proceed forward in this manner, and your canal will have the same uniform degree of slope throughout its whole extent. In this manner, the fall can be regulated to any assignable degree.

## ON WASTE LAND IN THE NEIGHBOURHOOD AND WITHIN THE COUNTY OF MIDDLESEX.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last Number you have inserted, from T. Y. of Southgate, some observations on the chase or common in his own immediate neighbourhood, and on two other large districts of waste in the neighbourhood of London.

In the course of my reading and observation, I have been enabled to communicate the names and computed quantities of the commons in the vicinity of the capital, and if you think the account acceptable for the purposes of your periodical work, it is very much at your service. In the account of T. Y. he has stated the quantity of land unimproved on Enfield Chase, at from 2 to 3,000 acres. The annexed statement extends the quantity to 4,000. I hope he is more correct than the authority from which I have drawn my information in this particular.

Hounslow Heath, which is said to contain

about .....	6,300 ACRES
Sunbury Common.....	1,400
Finchley Common .....	1,240

car. over 8,940

Brought forward, 8,940 ACRES  
 Harrow Weald, and part of Bushy Heath

Commons.....	1,500
Risclip Commons.....	1,500
Uxbridge Common.....	350
Harefield Common.....	200
Hillendon Heath.....	160

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12,650

The remains of Enfield Chase, still uncultivated,  
 from actual mensuration, are

The allotment to Enfield parish.....	1,532
Ditto to Edmonton parish.....	1,234
Part of the allotments to the Crown.....	1,047
Ditto to Hadley parish.....	190

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4,000

Making together, 16,650

Hampstead Heath, Roxhill Green, Pinner Com- mon, Pinner Marsh, Sudbury Common, Ap- perton Green, Wembley Green, Kenton Green, Greenhill Green, Uxbridge Moor, Memsey Moor, Gould's Green, Peil's Heath, Hanwell Common, and Worwood Shrubs.....	1,350
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18,000

The whole extent of this irregularly-shaped county com-  
 prises 280 square miles, or 179,200 acres. By the preceding  
 account it will be seen, that about one-eighteenth part of the  
 whole county is uncultivated, although the whole is suscepti-  
 ble of a high state of improvement and cultivation.

From the abundant intelligence on the management of  
 waste lands in the several volumes of your work, it is quite  
 unnecessary for me to enter into the parochial and feudal  
 claims, which occasion this neglect in the neighbourhood of  
 the most opulent city of the world.

I am, Sir, yours, &c.

Cornhill, April 12, 1804.

ARATHI AMICUS.

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## CATTLE IN NORFOLK.

To the Editor of the *Agricultural Magazine*.

SIR,

I AM led to think, from the spirit of candour which per-  
 vades the letters of Chorographus, that if I attempt to  
 supply the deficiency to which he himself adverted, by some

account of the Cattle of Norfolk, he will not be offended. He said, "the animal produce is equally astonishing, (with the vegetable produce) twenty thousand head of fat bullocks, and thirty thousand head of sheep, from these districts, are annually sent for the London markets." How far he was accurate, will be seen by the following estimate, which has been made of the proportion sent out of the county, in which have been included some other articles intermediately connected with the subject.

5,000 Home-bred bullocks, at 12l.....	60,000
15,000 Scotch and Irish ditto, profit upon each may be stated at 6l.....	90,000
30,000 sheep, at 2l.....	60,000
Swine.....	12,000
Dairy articles.....	5,000
Poultry and game.....	3,000
Wool.....	20,000
Herrings exported.....	50,000
	<hr/>
	£.300,000
	<hr/>

In this county, sheep deserve the principal consideration, because, from natural causes, it is not only at present, but must continue an important branch of Norfolk farming. Much information may be collected in your Magazine on this subject, and I hope it will be attended to where it is so essential to rustic improvement. Crossing the breed (we are told in Norfolk) should be done with great caution, and in general it is best to keep each sort of cattle as distinct as possible in its kind, as every sort possesses some particular advantages, but when land becomes much improved, stock may be improved in proportion; and in some instances, the breed may be crossed with propriety, but there ought always to be some similitude between the cattle which are crossed. It is a manifest incongruity, to match a horned bull with a Suffolk polled cow, or a Norfolk and Leicester sheep, or a Norfolk and a South Down, or any long-woolled sheep; but a Leicestershire sheep may be matched with some propriety with a Cotswold and a South Down Sheep, with a Berkshire and Hertfordshire Ryland.

Those who are at all acquainted with the luxuries of the metropolis will be surprised, under the recollection of Christmas dainties, at seeing poultry and game stated only at 3,000l. and will be inclined to think, that the turkies alone would amount to that sum. The fact, however, is, that there is a species of factor called a poulterer, who obtains a very large portion of the profit on this bird. The success in the nurture, and the excellence in the flavour of the poultry of this county, is to be ascribed both to the dryness of the soil, and to the range

the birds enjoy, by which they are enabled to select for themselves the species of food best suited to their health and improvement.

It will astonish most of your readers, that in these districts where swine are most of all prolific, the inhabitants have not yet resorted to the expedient of converting pork into bacon. The breed here acquires nothing of the breadth and general magnitude attained in Hertfordshire and Hampshire: it is small and thin haired, but although it is little esteemed beyond the borders, it is found sufficiently profitable within the limits of the county.

On the horned cattle, with which I shall conclude this brief article, I have read the following correct observations.

“ The cows which are natives cannot be much admired; they are small, with turned up horns, and generally of a red colour, but of late years the Suffolk polled cow of the dun colour is much introduced; it is not quite so hardy, but where the pasture is tolerably good is certainly more profitable.”

Oxen are very little used in this county for labour, and those grazed are chiefly brought from Scotland or Ireland, which are in general found to answer better than those which are home bred. They are commonly bought in the autumn, and if they are in forward condition, one acre of turnips will put from 5l. to 6l. profit on an ox, by Lady day or May day following.

Those which are not so forward are kept upon offal turnips in the Winter, and fatted in the marshes by harvest, when they double their price during the year, which in either case I consider to be a very profitable scale of grazing.

I am, Sir,  
Yours, &c.

*Lynn, April 10, 1804.*

F. C.

REMARKS ON THE GARDENS OF THE NEAT HOUSES SITUATED  
AT MILL BANK, BETWEEN WESTMINSTER AND CHELSEA.

*To the Editor of the Agricultural Magazine.*

SIR,

I Have seen with extreme mortification from intelligence communicated through a variety of channels in your miscellany, the large quantity of unproductive land within the narrow circuit of this little island. With this deserted waste, I have contrasted the exuberance of the kingdom of China where mountains are levelled, and the fertility of nature is improved to an extent which, until lately, was supposed only to exist in the imagination of the poet, and the fictions of the traveller. I have often been solicitous to suggest to my own mind, the

most successful means by which the public supineness might be dispelled, and by which the public zeal might be awakened. Interest in this commercial country is the magnetic principle possessed of irresistible powers of attraction, and it appears to me at this moment, that no arguments I could employ would be so likely to be effectual for the important purpose to which I have adverted, as to shew the immense fortunes which have been raised from a foetid and baleful morass in the immediate vicinity of the capital. The Board of Agriculture has directed its attention to this important subject, and the article here furnished, is drawn from the materials at their office.

The gardens called the neat houses, situated between Westminster and Chelsea, have their soil supplied from the slime of the Thames, and they are secured from future inundation by an earthen wall raised a few feet above high water mark, and of the breadth of about 15 feet at the top, and 25 at the basement.

Most of the land thus secured against floods, is peculiarly suited to the purposes of the kitchen-gardener. In the situation now under review, the occupiers can by a little attention to the sluices fill their ditches, dip-holes, and wells, with Thames water, and detain it in such places to within about eighteen inches of the surface, and by that means save a great deal of labour in watering their crops. In addition to this the water they use (from the Thames) is also of a more enriching quality than can be met with in most other places.

This land has been as long, or perhaps longer in the occupation of kitchen-gardeners than any other land in Britain, and for a great length of time has been supplied with dung, as much in quantity and as often repeated, as in the opinion of the occupiers could be applied with advantage to the crops. The quantity thus used, is annually upwards of sixty cart loads per acre.\*

Thus by an union of *natural fertility with heat* (raised by *dung*) and a due degree of *moisture*, are the occupiers of these grounds enabled to raise the *greatest* crops in the *least* possible time. This district being also nearer the market than most others, it has from a combination of such advantages, a decided preference over every district in the kingdom.†

\* The gardener to whom I am indebted for the most of this account, fetches six hundred loads of dung annually from town, and uses it all on nine acres of ground. These carts are drawn by two horses, and the loads are about half the size which the farmers draw to greater distances with three or four horses.

† It is also situate on the south west border of the town, consequently the cold north east wind so hurtful to vegetation in exposed situations is considerably moderated, or rarified, before it passes over these grounds. They are also naturally low and sheltered.

*Crops.* Soon after Christmas, when the weather is open, they begin by sowing the borders, and then the quarters, with radishes, spinage, onions, and all the other seed crops. As soon afterwards as the season will permit, which is generally in February, the same ground is planted with cauliflowers, from the frames, as thick as if no other crop had then possession of the ground. The radishes, &c. are soon sent to market; and when the cauliflowers are so advanced as to be earthed up, sugar loaf-cabbages are planted from the aforesaid *seed* crops. When these are marketed, the stalks are taken up, the ground cleared, and planted with endive and celery from the said *seed* crop; and daily as these crops are sent to market, the same ground is cropped with celery for winter use.

The foregoing rotation or order in which the land is cropped, may be considered as the general practice of the gardeners in the district, although there are individuals who differ from it in several respects; as the state of the markets, the price of the articles, or their own inclination and opinion directs them. But one thing they unanimously agree in, namely, that to *dung plentifully* and with discretion; *to dig the soil well* and *to sow good seed*, is the only practice on which a reasonable expectation of good and plentiful crops can be founded.

Next to the grand object of good land, clean, full of dung, and but little above the water, the kitchen gardener esteems shelter from cold winds as highly essential towards bringing his crops rapidly forward, and into the highest state of perfection. Hence it has been the constant practice in order to attain this desirable object, to erect a considerable number of reed fences (though they have lately substituted paled fences in their stead,) which they place in such positions as are best calculated to prevent the currents of cold chilling winds from passing over their grounds.

The following estimate was made by a gardener who occupied nine acres, situate about two miles farther from market, as his opinion of the produce of the soil at the neat-houses before mentioned, viz.

The radishes, &c.	£. 10
Cauliflowers frequently 70 or more, but say	60
Cabbages	30
Celery, the first crop, not unfrequently upwards of 60, but say	50
Endive	30
Celery the second crop	40

Total annual produce of one acre      £. 220.



This he stated as an estimate rather under the mark. Some seasons occasion a considerable loss, perhaps of one crop; but as this does not often occur, he was of opinion that upon the whole, 200l. an acre was a very low estimate of the average annual produce of these gardens.

With the produce or amount of a gardener's crops, I confess I am not practically acquainted; and therefore, I must beg that the foregoing account may be taken as the result of the enquiries which I have been able to make.

The very great expences of, in labour, manure, &c. which kitchen gardeners are at, is evident to every one who lives in the neighbourhood of them. Probably their expences may be thus devided, viz. in labour, 35l.; teams and dung 25l.; rent, taxes, and tithes, 12l.; marketing and expences, 8l.; together, 80l.; which taken from the foregoing sum of 200l. leaves 120l. per acre as interest of capital and profit.

The farming gardeners, or those who work their soil principally with the plough, are situated rather more distant from London; occupy larger tracts of land, and are content to follow something like the following method or order of cropping, namely:—In the months of January and February, they crop their land with *early peas*, to be gathered green in pods, and sold in the month of June. The haulm is hooked up, and as soon as it is dry, it is carried off the ground and stacked for the fodder of horses, on which they thrive nearly as well as on hay. The ground being cleared, is ploughed and planted with *turnips*\* which are sold off in autumn, at which time the ground is again ploughed and planted with *collards*.

When the crop of peas is of the marrowfat kind, they do not come so early as before mentioned, and are, therefore, generally succeeded by a crop of savoys, or late cabbages. In gathering green peas, six or seven acres will employ twenty persons daily, (Sundays not excepted) and they are paid from one shilling, to sixteen or eighteen pence per sack, of four bushells, for gathering them. The price varies according to the bulk of the crop, and also according to the kind of pea, or size of the pods. Those of the marrowfat, or larger kind, at one shilling, and the smaller sort at sixteen or eighteen pence per sack. They are sent to market in these sacks by both land and water carriage, from every distance, perhaps, not exceeding twenty-five miles, and are sold in the market at from five to seven shillings per sack: in which manner this crop returns from less than 5l. to upwards of 20l. per acre.†

\* All these operations are done in a few days, or finished within a week from the time when the last peas of the piece of land are gathered.

† The produce of a field of six acres, in June, 1796, that was not at all remarkable for more than a common crop. Number

Turnips are pulled up by the hand, the top-root cut off, washed, and tied in bunches of ten or twelve in each. They are then sent to market in carts which carry about forty dozen of these bunches, and thus produce from two, to four guineas each load, or from twenty to upwards of fifty pounds per acre.

I think there are about eight thousand acres in four counties\* cultivated in this manner, producing, per acre, about fifty pounds. There are perhaps thirteen hundred acres in the vicinity of London, cultivated by the spade in the most perfect manner, which do not possess the advantages which I have before stated to belong to the soil at the Neat Houses, but which are rather under the medium between the soil at the Neat Houses and the land occupied by the farming gardeners, producing an hundred pounds per acre.

There are also about five hundred acres more, which, possessing some of the advantages of the soil at the Neat Houses, hold a medium station between that and the last mentioned thirteen hundred acres, and which, being cultivated in the same manner, produce a return of about one hundred and fifty pounds an acre. This sum is disposed of thus, viz. in labour, 40l.; in teams and dung, 25l.; marketing and expences, 5l.; rent, taxes, tithes, 10l.; together, 80l. leaving for interest of capital, and profit 70l. per acre.

Gardens at the Neat Houses 200 acres at 200l. per acre	-	-	-	£:40,000
Surry side of the Thames, 500 acres at 150l.	-	-	-	75,000
Round the outskirts of London in four counties, 1300 acres at 100l.	-	-	-	130,000
Wholly cultivated by the spade, 2000 acres at 120l. 10s. per acre average	-	-	-	245,000

Number, forty cacks, of four bushels each of pods, sent to market and sold from 6s. to 13s. average 7s 6d. each	£. s. d.
	15 0 0

Haulm, stacked and given to draught horses one ton per acre worth two thirds as much as hay, but say	3 0 0
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PRODUCE.

EXPENCES.	Ploughing once from clover ley	0 10 0
	Seed, four bushels at 12s.	2 8 0
	Drilling, covering, &c.	0 7 0
	Hoeing twice	0 10 0
	Pollding at 18d. per sack, on forty	3 0 0
	Marketing, distance ten miles land carriages	1 5 0

* Middlesex	1800
Surrey	3500
Kent	1700
Essex	7000

8000 acres.

Farming gardeners, their land partly cultivated by the spade, but mostly by the plough, 8000 acres, at 30l. per acre

Total 10,000 acres producing annually 400,000

To which sum add for fruit gardens 400,000

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£.1,045,000

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And the total will shew that the consumption of the metropolis and its environs, in fruits and vegetables, is upwards of one million pounds sterling per annum.

I think these several estimates cannot be too high for the produce raised by the labour of the kitchen-gardeners round London; as they are known to live, and provide as well for their families on five acres of the best ground, nine acres of the second best, or twenty acres of an inferior soil, as the generality of farmers can do on an hundred and fifty, or two hundred acres. This cannot fail of placing the gardeners art in the most favourable point of view; as no other application of land, nor of labour, does, or can supply, so large a surplus revenue towards supporting the non-productive part of the community. The labour and profit of the dealers, the porters, and additional carriage, greatly increase this sum to the consumers; but in what ratio or proportion, I have not been able to learn, though, in the article of turnips, I have known the farming gardener to receive forty-five pounds per acre for that commodity, when the consumer was paying to the retailer after the rate of one hundred and fifty pounds per acre\*. In other articles no doubt something like the same proportion holds good. Upon mentioning this to a gardener, he replied, "No, no, not so much as that neither." The same person observed, that the retailers who keep shops, and stands, never buy more than they know they can sell well. And therefore both growers and consumers are much indebted for the moderate price, and the consequent increased consumption to the Jack Ass drivers, barrow-women, and other itinerant dealers in these articles, who buy of the gardeners in the market, and hawk through the streets of London, and its environs, vegetables and fruit at a very moderate price.

It is, Sir, to one of the most laborious and ingenious of your correspondents that I am indebted for the curious facts in this paper. If I can form any judgment from the circumstances, with which I am acquainted of the spirit, by which he is actuated, he will be happy to see the means of extensive circu-

\* Four hundred and eighty (forty dozen) branches at 1½, is 3l. a cart load: fifteen such loads per acre is 45l. They were retailed at five pence which is at the rate of 150l. per acre.

laston adopted, that the world may know how nearly connected private emolument is with public improvement; in order that the same activity and intelligence which prevail in the neighbourhood of the capital may be diffused throughout the empire.

I am, Sir, yours, &c.

Chelsea,  
April 5, 1804.

OLITOR.

## ON TITHES. IN ANSWER TO CLERICUS.

*To the Editor of the Agricultural Magazine.*

SIR,

I CANNOT pretend to be so well *versed* in the customs and regulations, under the Jewish dispensation, as your correspondent "Clericus." I humbly conceive, however, that it is not very difficult to show that these regulations are not obligatory upon the inhabitants of this country in the payment of tithes; and when we compare the turbulent, inglorious reigns and misfortunes of the Princes of the House of Stewart, *who derive their power from acts of parliament*, we cannot but admire the *prudence* of the Clergy in waving all considerations as to the *origin and antiquity* of tithes, and thus letting their claims to them rest solely on legislative regulations. Probably, they conceive they are equally under the guidance of prudence in not acting upon that "dormant right" which Clericus says "exists" to *assess tithes on the increase of the people of England, arising from a commerce, &c. to the amount of, perhaps, 150 millions per annum.* Whether your correspondent has correctly stated the rights of the clergy in this and other respects, I cannot say, as I have not lately had leisure to investigate the matter, but I presume, that his statement includes all those "dormant rights" they so frequently allude to, and for not exercising which they extol their *moderation* instead of their *policy*. I am inclined to believe, however, that most of these "dormant rights" would not bear a close investigation in our courts of law. But supposing them well founded, does Clericus really believe that the people of this country, would now suffer them to be exercised? that they are able and willing to bear great additional burdens for the purpose of maintaining the independence and happiness of their country, and the superior rank she holds among the nations of the earth, will not be doubted; but that over and above these and their other burdens, they would submit to so enormous a tax *in addition to the present revenues of the church*, as that mentioned by "Clericus," I cannot believe. And as some men who are esteemed good judges fully agree with A. Meridionalis "that if the *summum jus* (I hate such words as

these in a work devoted to farmers) were exercised with respect to tithes one year, their commutation would follow the next," I should be glad if the clergy were so "pressed" by the "seculars" as to be induced to use the threatened "weapon"—that weapon, Sir, which "Clericus" says "the laws of the country has confided to their hands"—under such circumstances it has been deemed highly probable that the table of the house of commons would be much too small to contain the very numerous petitions which would speedily be presented from all parts of England, *to a commutation of tithes*. Undoubtedly, Sir, such petitions would produce the desired effect, for the people would steadily persevere (if they could once be induced to begin) and all references to the book of Leviticus and the origin of tithes, would be vain. The establishment of England would be easily convinced by the example of upwards of three-fourths of the Christian world, that the interests of the clergy and the sacred cause of religion, could be well upheld without tithes. Indeed, Sir, it would be unnecessary to travel far from home for information on this subject, for the case of the inhabitants of Scotland (whose conduct relative to tithes operates as a severe satire on the supporters of the tithe system of England,) proves the position to be founded on truth. I have said *well upheld*, but I scruple not to say that the Christian religion and the respectability, peace, and opulence of the clergy, might be *much better* supported without tithes, than under our present systems—at page 166 of your fiftieth number, I ventured to recommend a mode of *commutation* which I humbly conceive would effectually promote these desirable purposes; and I hope I have proved that the payment of tithe is highly detrimental to the improvement of the country. Will "Clericus" undertake to prove that the payment of tithe is not greatly prejudicial to such improvement? and if he admits the truth of my position will be convinced that it would be improper or unjust in the legislature to pass an act to *commute* tithes? under such an act the proprietors of tithes would receive the full value of their property, on agriculture, population and national strength would be greatly augmented, and a bar raised to that ill will and litigation which so frequently prevails between pastors and their flocks, I cannot conceive that any well founded objections can be urged against such an exercise of legislative power, and it now seems to be the general opinion that if such power is *not* exercised in commuting tithes, the time is at no great distance when the murmurs of Englishmen will not only be "deep" but "loud." Your correspondent says that the clergy are not "to be deprived" of their present rights "without their consent," and heartily wish that they would "lead the way," but if they will not pursue so advantageous a course,

can it be maintained, that the public good should be sacrificed to the "right" and obstinacy of the tithe holders?—Will "Clericus" say, that our legislators have acted unwisely or unjustly, in promoting the public interest by infringing private property in the operation of canal, road, and numerous other bills, which direct full compensation to be awarded? I beg leave to recommend "Clericus's" letter to the particular notice of Agricola Meridionalis, from whom your readers may reasonably expect a full and masterly discussion of this important subject.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

# ON THE ABSURDITY OF SCIENTIFIC TERMS IN WORKS DEVOTED TO PRACTICAL FARMING.

*To the Editor of the Agricultural Magazine.*

SIR,

March 26, 1804.

I AM sorry to observe, that neither "Hibernicus" nor "Lucus Medicus." nor any of your philosophical friends, hath condescended to inform me concerning the matters I enquired about in your Magazine for November past: they talk of coal and other alkaline salts, and a number of other things, as if they were writing to philosophers. But I must beg leave to remark, that until they pursue the course in instructing the farmers who read your work, which I requested, and fully explain what these substances are, they may just as well send their communications to the lunar regions as to you, *with respect to any good effect they will have in enlightening me and nineteen out of twenty of my brothers of the plough.* Coal a manure, or the food of plants! why good God, Sir, however highly we may think of the general character for wisdom of those whose sentiments we occasionally hear on the subject, and however we may be satisfied that the above correspondents would not sit down to deceive us and write errant nonsense, yet when we almost daily see that the thing we know by the name of coal, is of no utility, if not poisonous to vegetables, what must we think of those men, whom the rest of mankind seem to consider as wise! What must we think, notwithstanding the success of some of them in raising good crops, but that our attention to their doctrines and opinions, would be ruinous. This seems to be corroborated by the *dressing* given to some of them by your correspondent R. G. at page 36 of your Magazine for January last; but still I cannot divest myself of the idea, *that there is something in the acquirements of these philosophers which might be rendered useful to the husbandman.* Under this impression, I lately

embraced an opportunity of asking a gentleman, who is generally supposed to understand these matters, what was meant by the coal so much recommended to farmers? His answer was, that it was *carbon* and *diamond*, which left me just as wise as I was when I asked the question; and as he accompanied his answer by a look, as I thought, of contempt, I did not venture to ask an explanation. On the road home, however, my neighbours and I thought that he might just as well have advised us to manure our ground with gold as with diamonds, and the other thing we did not rightly understand, and that he meant to burlesque us. Another person in company, who pretended to be wiser than any of us, said, that he was firmly of opinion, from the *manner* of the gentleman of whom I enquired, that he had merely obtained a *course of words*, and that he was unable satisfactorily to explain what he had frequently mentioned in the conversation of the evening regarding coal, &c. and Mr. Editor, I will begin to suspect that there may be a good deal of this in the way, with your *philosophical* friends, if they do not begin at the right end of their work and explain their letters to us. There is another matter that I will now mention, and on which I doubt not but I will receive through the channel of your work, the opinion of some *practical farmers*, who I hope will mention nothing they do not understand, or that they are *unwilling to explain for the benefit of their brethren and the advantage of mankind*. The subject I allude to, is the quantity of seed necessary for the different kinds of land. Two of your correspondents, *Norfolciensis* and *Northumbriensis*, seem to think that bad land should receive more seed than good, at least from what the latter says, as to the plants being at a greater distance from each other (in drilling) on the latter than the former, I suppose this is his opinion. That of the former correspondent seems more fully declared. On this subject, which seems very important, there is a great difference of opinion among farmers, and I have heard many declare their opinion to be quite the reverse of the above; who is right I cannot say, but I should like to see the matter more fully discussed without troubling the above correspondents, whose opinion is already published. I am also anxious to see what *Northumbriensis* and *Meridionalis* will say on the remarks "that they have left the horse and ox dispute where they found it, &c." and whether they will be *silent* like Mr. Middleton and the *Berkshire man*, or whether they have resolution to face the keen pen of *Norfolciensis*, and to lend their aid in forwarding the cause of agriculture by their future assistance to your work

Yours, &c.

A. NOVICE.

REPLY TO AGRICOLA NORTHUMBRIENSIS ON THE NATURE  
AND DESIGN OF THE COMMUNICATIONS OF AGRICOLA  
NORFOLCIENSIS.

*To the Editor of the Agricultural Magazine.*

SIR,

*Fakenham, May, 10th 1804.*

**I** Perceive by your last Number that my unfortunate observations on the question of "horses and oxen," have nettled one of the combatants in an extraordinary degree. I trust you will give me credit, when I assure you, Mr. Editor, that the provoking the resentment of Agricola Northumbriensis was far from being my wish or intention when I wrote them. On looking at them again, I have no reason to think that I either wrote in ridicule or censure of the controversy: I allowed the importance of the question, I merely begged leave to hint; that it had received as full a discussion as the nature of it would admit, and that notwithstanding the weighty arguments, each party had adduced in support of his favourite system, both had remained unconvinced, and that bye-standers had had *enough*: I still assert that the question is undecided, and most probably ever will. The truth appears to be that each system has its advantages and disadvantages, and that the preponderancy of the one over the other is mutual, as situation and soil direct the scale. Let the subject, however, receive all the examination its consequence merits, but let the disputants produce more *matter of fact* and less *argument* in future; and I am sure Chorographus who desires to see the contest revived, will at least agree with me on this point.

I am sorry, Mr. Editor, that the provocation I have received, compels me to take so wide room in your collection of this month; but I must be permitted to ask you, in vindication of my past letters, do I mistake the nature of your publication? Is not the design of it to invite communications from the various quarters, not only of this Island, but of the world, that your readers may gather useful agricultural knowledge of every kind, and be informed of the most excellent modes of tillage practised in every district? Such, Sir, has been the opinion I have formed of it, and under this impression, I have now and then ventured to offer you a description of implements used in this neighbourhood, or the method of wheat and turnip culture pursued in this county; and have sometimes taken the liberty of pointing out an error either of some correspondent of yours, or some author that had fallen into my hands. Of what then, Sir, am I accused? Why of crowding together a variety of topics into one or more letters, asking questions, hurrying from one subject to another, from place to place, forming altogether a sarrago of poor stuff, not half so entertaining or instructive as the little scrap of politics which you

*Ag. Mag. Vol. 10.*

Y y



give us at the end of each Number, to all which I most humbly plead guilty, and throw myself on the mercy of my judges. Alas, Sir, had I been blest with half the assurance that my Northern Censor possesses, I would have made each topic the subject of a long, very long letter, I would have dispatched *one, two, three* of them as fast after each other as I could have scribbled them; or, had I fortunately conceived but half so good an opinion of my own abilities and knowledge as A. N. certainly entertains with regard to himself, I would never have condescended to ask questions for information-sake of any one. No, Sir, scorning such mean indignity, I would assume the office of preceptor-general to all the agriculturists in Great Britain, I would tell them in the most peremptory stile, that my native country was the only spot in which farmers knew any thing, and that I was the most intelligent of them. Then, Sir, after a little while, I would save you, (I mean if I could write half so readily, or half so *much* as Agricola Northumbriensis) the expence of postage of letters from your numerous correspondents by a very ingenious contrivance: I would undertake to write the *whole* of each magazine myself, and though I should thereby lose the pleasure of contradicting opponents, and *accepting challenges*, of which I am very fond, yet, you know, Sir, I could pay many compliments to myself, which would amply compensate the want of adversaries, and as I should need no instruction, and I like best to read my own composition, I shall have greater satisfaction in paying the eighteen-pence than I ever had when your work consisted of heterogeneous matter, the production of other brains.

But now, unhappily deficient in these high and enviable attainments so conspicuous in A. Northumbriensis, and willing to learn, I gladly have recourse to your miscellany for information, I ask questions with a real design to inform myself, and with the utmost diffidence, if aught I know to which another is a stranger, I offer it to him, sincerely wishing to be of service to the Republic of Agriculture, and daring to believe that if I fail in that point, still are my endeavours to do good entitled to *respect* though not *applause*.

I am, Sir, your's, &c.

AGRICOLA NORFOLCIENSIS.

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## ON THE FERTILIZING NATURE OF LIME AND DUNG.

*To the Editor of the Agricultural Magazine.*

SIR,

May 2, 1804.

**H**AVING found the study of chemistry so fascinating as to be inconsistent with the necessary attention to business, I determined to relinquish it; my knowledge of that

science is therefore very limited. Notwithstanding this, however, I intended to have addressed you at great length on the ardent and judicious enquiries of "A Novice," which have been overlooked, for several months past, by your *philosophical correspondents*. I am sensible, Mr. Editor, that it would have been greatly beyond my powers to have given complete and satisfactory answers to these enquiries. I entertained hopes however, that my observations would have brought forward so ample a discussion from "Hibernicus" and "Lucas Medicus," &c. as would have been the means of affording full satisfaction not only to "A Novice," but also to many other practical farmers.

The subject having been embraced by another correspondent (D. C.) who will, I hope, be able to do it much greater justice, my sphere is considerably narrowed; and, after stating what I conceive is still necessary to make it somewhat more intelligible, &c. to the mere practical farmer, I shall take the liberty of offering but little more than some remarks on his letter in your last Magazine. I am aware, Sir, that there will be a great diversity of opinion as to the *importance* of an investigation of this nature, among *practical husbandmen*, many of whom consider it highly dangerous to permit the *practice* of the field to rest, in any degree, on the theories and discoveries of the chemical philosopher. For my own part, I am fully satisfied of the vast superiority of *practice*, when founded on the results of well conducted comparative experiments, and accurate observation; I am still, however, of opinion that the researches and discoveries of the "closet" philosopher may be rendered of great service in the improvement of agriculture. Indeed there can be no doubt whatever, but that in other employments as well as the cultivation of the soil, the energies of the human mind are laudably employed in endeavouring to trace effects to their causes, and that the attainment of such knowledge, is not only highly gratifying, but often of great utility in leading from injudicious management and applications, to those which are most proper and economical. As most practical farmers are thoroughly acquainted with the modes of calcining limestones, &c. and as D. C. has enlarged in that process, it seems unnecessary to say one word upon that subject. It appears proper, however, to state, (and I hope it will be easily understood by every farmer) that limestones, marble, shells of fish, marl, chalk, &c. are the *calcareous earths* alluded to by him, and that they are found combined with what was formerly called *fixed air*, but what is now denominated *carbonic acid*. This fixed air and the water of composition are expelled during the process of burning, and the weight of these constituents, is, I think, nearly what D. C. has stated, namely half the weight of the stones, &c. in their original state. These burnt stones, &c.

when exposed to the atmosphere (common air) reabsorb moisture and the carbonic acid so greedily, that, within a short time, they are reduced to a powder\*. If this powder be exposed to the open air and turned over, it regains, *within a few days*, its portion of carbonic acid, and is then *effete lime*, or more properly *carbonat of lime*, and not materially, if at all, different from the stones, &c. previous to their ignition, except with regard to form and (in some cases) colour. Immediately after burning, where the stones, &c. are deprived of their carbonic acid, the lime is called *quick*, or *caustic*. Hence we see that the lime generally applied in agriculture is, in a considerable degree, *effete*, that in this, as well as in its caustic state, it may be obtained in a fine powder, and that when applied to the soil in the latter state, it will *soon* become *effete*. If it is more advantageous, therefore, to the farmer, to apply *quick* than *effete*, lime, its advantageous operations must be performed within *a small space of time after its application to the ground*. These operations are stated to effect the destruction of organic matter (vegetables, worms, insects, some grubs, &c.) and their conversion into manure.—*Quick lime* most readily combines with, and destroys, small *oily* seeds, and having *experienced* its injurious effects on turnip seed deposited *one day* after the application of such manure, I am convinced, that it is not so harmless as your correspondent, D. C. has represented, and that it retains a considerable degree of causticity (especially in dry soils and in dry weather) until *two or three days* after it is mixed with the land. Besides its caustic quality, I have long supposed that its power of absorbing moisture from the soil, is, *in dry seasons*, exceedingly detrimental to the growth of turnips. In support of this hypothesis I beg leave to state the following case. In the autumn of 1802, I ploughed six acres of land *similar in soil and condition*. In May and June last it received three ploughings and four acres of it about 160 Winchester bushels of *fallen* lime, per acre. This lime was nearly in a caustic state, it therefore remained two or three days spread upon the surface of the ground. About four or five days after its application, the whole of the ground (which was managed in a similar mode) was dunged with the same kind of dung, and sown with turnip seed also, equal in kind and condition. For many weeks before and after the seed was sown, the weather was uncommonly dry. On the two acres which received no lime, the seed vegetated in the usual time (in such seasons) and the braird was a pretty full one. On the other part of the land,

\* The loss of weight sustained by calcination, and the increase of that of the new burnt stones, &c. may easily be ascertained by weighing before and after each exposure.

however, though contiguous, and sown on the same day, it was very thin, till rains fell in August, when its closeness proved that the seed was not injured, and that the causticity of the lime had been destroyed before it was sown. The turnips on the two acres were nearly equal in weight to those on the four acres, which I attributed to the lime having increased the avidity of the latter, by absorbing part of the moisture from the soil.

From this and other cases which have occurred in the course of my practice, I conclude, that in such turnip seasons as the last, it is advisable to withhold *quick lime*, and to apply calcareous matter for the amelioration of the land at some other period within the course of crops.

I have never remarked that *effete* lime which had imbibed a very considerable quantity of moisture previous to its application in the turnip season, proved detrimental to the growth of that plant. I am far, however, from recommending such an absorption of water as would prevent its being applied in powder, for when it becomes so wet as to be almost fit for mortar, it cannot be equally spread over the land, and more of it is necessary (per acre) to produce a given effect. What your correspondent D. C. has stated respecting the fertilizing principle of lime, will not, as far as I am able to judge, be deemed satisfactory. Its *mechanical* effects in breaking the cohesion of strong and increasing that of light sandy soils, and thus fertilizing both, seem almost universally admitted, both by practical farmers and scientific agriculturists. But with regard to its other operations, which philosophers generally deem the most important, and which, perhaps, are extremely difficult to explain, there is, evidently much difference of opinion. After stating the facility with which lime imbibes water, D. C. says, "it becomes slacked, it crumbles and magnifies its surface by these means to the utmost possible extent, in order to impart to the womb of nature all its fructifying principles." Perhaps this, *as far as it goes*, may be very good; and he may, perhaps, build upon it a very plausible theory; but, Sir, I must inform him, that much more than he has yet stated, appears *necessary*.

He next says, "that the effect of lime is to combine with, and destroy the organization of substances, by forming a sope with their fat parts. This shews (says he) the utility of a mixture of dung with lime; for by the assistance of this *caustic* principle, the dung is reduced into a coal, and the carbonaceous ingredient which we are now to understand to be the substantial food of vegetable life, is thus abundantly supplied."

That the alkaline substances, (potash, &c.) and lime will combine with oleagenous matter and form a sope, is pretty generally known; how far, however, this is analogous to the

formation of coal by mixtures of dung and lime, will require much elucidation to be rendered intelligible to the practical farmers; and perhaps philosophy itself, in the hands of the ingenious, would afford some well grounded objections to such analogy. But waving this part of the subject, permit me now to bring your friend's theory to the test of *experience*. This pillar of truth, Mr. Editor, has satisfied much the greatest number of accurate and attentive husbandmen, that one part of what he has stated, namely, that greater fertility is promoted by the application of dung and lime, than by that of dung or lime *only*, is well founded; but it has also convinced them, that *carbonat of lime* is equal, if not superior, to *quick lime*, in conjunction with dung, for increasing the fertility of the ground.

Now, Sir, as your friend D. C. has imputed the fertilizing nature of lime, when mixed with dung in the soil, to its converting the latter into a coal by its "*caustic principle*," I humbly conceive that his theory may be easily overthrown; and I should be glad if he, and your other ingenious philosophical correspondents, L. M. Hibernicus, &c. would endeavour to account for this increase of fertility, in a more satisfactory manner. I hope they will allow me to remind them how necessary it is, in the investigation, to advert to the *very short* interval between the time of applying *quick lime* to the soil, and that of its becoming *effete* or mild calcareous earth; and to ask whether any of them can assert, *from accurate experiment*, that two to four or five days after *quick lime* had been applied in the usual manner, they have, in any case, found it otherwise than *effete*?

As Hassanfraz, Kirwan, and a long list of able philosophers, who have laudably endeavoured to ameliorate agriculture by the application of chemical principles, have asserted that carbon is an *essential* ingredient in the food of all vegetables; and as this opinion seems principally founded on their analysis affording more of that than, perhaps, any other matter, I presume the above correspondents *who are advocates for this theory*, will not deem it altogether impertinent, to ask whether *proper* experiments on animals and their food have demonstrated that the chief constituent part of the latter, is also an analysis, found to be that of the former? and whether, with respect to the food of plants, they reason analogically? It would be improper, in a person so little skilled in chemistry as I am, to remind these correspondents of the various combinations, decompositions, &c. which may, perhaps, render the *proportions* of matter in the food, different from those in the thing fed. They would probably shorten the enquiry by stating the rapid growth of different vegetables in matter impreg-

nated with great quantities of carbonic acid, &c. as demonstrative of the truth of their principles.

Admitting then that carbon is the essential and principal ingredient in the food of vegetables, I shall now venture to advance an hypothesis with respect to the *fertilizing principle of lime*, which, upon the whole, seems more elegant and satisfactory than any other I have seen :—it is that which I have had the pleasure of hearing from the mouth of an ingenious and able chemical philosopher, Mr. John Stancliff. (I believe he is now Dr. Stancliff, of Caius College, Cambridge.)

In the first place, however, it seems necessary to observe, that lime possesses a power of combining with carbonic acid in two proportions; that in one of them it is insoluble in water, and that in another it again becomes soluble. For instance, if mephitic water (which contains carbonic acid gas) be added to lime water, the mixture will appear turbid, and the carbonated lime will fall towards the bottom. But if mephitic water, with a still greater quantity of carbonic acid, be added, the mixture will not become turbid, and that which has already been rendered turbid, will, by such addition, become transparent. Mr. Stancliff supposed “that the basis of the food of plants (carbon) was best presented in the form of carbonic acid gas, and that this is most conveniently applied to the inhaling vessels of the plants in the form of this redundant quantity of carbonic acid in the lime. The lime then he supposed to act thus: by absorbing a superabundant quantity of carbonic gas from the atmosphere, and especially from the decomposing vegetable matter in the manure, (which it in the mean time, probably helps to decompose), it becomes soluble, and capable of closer application to the vessels of the plants, to which giving out its superabundant gas, it becomes again insoluble; and so by perpetual reabsorptions and resolutions, it is capable of continuing its useful action of conveying food to the growing vegetable for an indefinite length of time.”

Were I convinced that the lime in the land receives this “superabundant quantity of carbonic gas,” and fully informed as to the *reason* why that valuable manure is so much more advantageous in fresh lands, than in those which have been long in aration, probably this hypothesis would be more satisfactory to me: and I should not have entertained such doubts relative to that of D. C. if he had not imputed the beneficial effects of lime applied with dung, to “its caustic principle,” for I must repeat that *similar effects result from the application of effete lime*.

An ingenious hypothesis was advanced by Dr. Hunter about fifteen years ago. He supposed oil the chief ingredient in the food of plants, and how far this is reconcileable to the doctrines of Hussenfraz, Kirwan, &c. &c. I leave to better

judges; to Lucas Medicus, and others, who can analyse oils, and perhaps, prove that they contain from 50 to 79 per cent. of carbonaceous matter. The Doctor supposed that lime was advantageous in altering the cohesion of oils, and in rendering oils miscible with water, which he considered as the vehicle of nourishment. It should be remarked, however, that lime will not render oil and water miscible without *agitation*, and doubts will be entertained whether that of the plough and harrow is sufficient. If I am not mistaken, some of the advocates of this theory have endeavoured to account for the superior advantages of applying lime with dung, by stating that the former incorporates the *oil* of the latter with water, by which it is *then* carried into the mouths of the roots and fibres of plants. I have been informed, however, that chemical analyses have proved that dungs and soils contain but very little, if any, oil. Be this as it may, *practice* has upheld what Dr. Hunter has stated relative to the fertilizing powers of different kinds of dung, namely, that of all the different sorts used by farmers in general; those of corn fed horses and *fat* cattle are the most enriching, and that the *more* oil the food of animals contains, the richer their dung will prove.

On this letter I shall be glad to read the remarks of your philosophical friends, who will doubtless point out and correct the errors in the chemical matter I have ventured to advance, but in doing this, and applying the principles of that science to agriculture, I particularly request that they will divest the discussion as much as possible of *technical terms*, or that they will explain them in such a manner as will render them intelligible to me and my brethren of the plough. If these philosophers will condescend to pursue a plan of this nature on the one hand, while my brother farmers assist me in bringing their theories and principles to the test of experience on the other, we may rationally entertain some hopes that those discoveries of philosophy which can be rendered advantageous to agriculture, will be disseminated among, *and understood by*, those whose pursuits will carry them from your useful pages, "and the closets of the recluse philosopher," to the improvement of the field. Such a plan, Mr. Editor, it is presumed, would be gratifying and *useful*, and when my avocations will permit, it shall receive the support of my humble abilities.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

P. S. With respect to making experiments and conducting them on a *small scale*, till the superiority of any particular mode of management is ascertained, I think "A NOVICE" is perfectly right; and not only in acting upon the knowledge

he may gain from the letters of your philosophical friends, but from the information of practical farmers, as to any *new* mode of management, I would advise him to proceed *at first* upon a *small scale*. Experiments to so small an extent, instead of being dangerous and expensive, appear to me the safest mode of avoiding unprofitable and hazardous practice. They are, however, *though within the reach of every farmer*, much neglected.

A. N.

## THE PRESENT STATE OF HUSBANDRY IN BENGAL.

(*Continued from our last Number.*)

**T**HE succession of crops which engages so much the attention of enlightened cultivators in Europe, and on which principally rests the success of a well conducted husbandry, is not understood in India. A course extending beyond the year has never been dreamt of by a Bengal farmer: in the succession of crops within the year he is guided to no choice of an article adapted to restore the land impoverished by a former crop. His attention being fixed on white corn, other cultivation only employs the intervals of the leisure which the season of white corn allow to the land and to labour; with an exception, however, to sugar, silk, and other valuable productions, to which corn is secondary; but which grown on appropriate lands belong not to the consideration of the course of crops. In this which is not regulated by the better consideration than convenience of time, it would be superfluous to specify the different courses which occur in practice. As little would it tend to any useful purpose to develop the various combinations of different articles grown together on the same field or in the stubble of a former harvest, or sown for a future crop, before the preceding harvest.

A competent notion may be formed of this practice by conceiving a farmer eager to obtain the utmost possible produce from his land, without any consideration for the impoverishment of the soil; able to command at any season, some article suited to the time, and not content to use his field so soon as the harvest makes room for succession, but anticipating the vacancy or obtaining a crop, a quick vegetation during the first progress of a flower plant.

It may be judged that his avidity disappoints itself, both as the several articles deprive each other of the nourishment which would have afforded a more abundant crop of either separately: and as the land impoverished, makes bad returns for the labour and seed. In most situations the land racked in this husbandry soon requires time to recruit; the Indian allows it a lay, but never a fallow. This would be well judged if the management of

*Ag. Mag. Vol. 10.*

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stock gave to the lay all the benefit which belongs to this method; and if the inefficacy of the plough which must be preceded by the spade, did not greatly increase the expence of opening the old lays.

The abuse of dung employed for fuel instead of being applied to manure, must have concealed from the husbandmen the benefit of well managed stock: else in his practice of pasturing his cattle in the stubble of his harvest, and in the fields of which the crop has failed, he could not omit to notice the advantage of a farm well stocked. For want of perceiving this benefit, the cattle for labour and subsistence are mostly pastured on small commons and other pasturage, intermixed with arable land, or fed at home on straw or cut grass; and the cattle for breeding and for the dairy are grazed in numerous herds on the forests and downs. Wherever fed, the dung is carefully collected for fuel.

Cultivation suffering very considerably by the trespasses of cattle, through the wilful neglect of the herdsmen, it is a matter of surprise that the enclosures are so much neglected. For a reason already mentioned, cattle cannot be left at night unattended: but in the present practice buffaloes only are grazed at night, cows and oxen are pastured in the day. For these enclosures would be valuable, and even for buffaloes would not be useless, and the farmer would be well rewarded, by suffering the cattle to fertilise all his arable land, instead of restricting the use of manure to sugar cane, mulberry, tobacco, poppy, &c.

Few lands unassisted, are sufficiently fertile to raise these productions; the husbandman has yielded to the necessity of manuring them. On the management of it, little occurs for particular notice in this, except to mention that khully or oil cake is occasionally used as manure for the sugar cane. A course of experiments would be requisite to ascertain whether the methods actually employed, be better suited to the soil and climate than others, which might be, or have been, suggested, from the practice of other countries, or from the varying practice of different parts of Bengal.

For a similar reason the consideration of other produce, (of which the culture is now general, or which might be generally diffused, as cotton, indigo, arnotto, madder) may also be deferred. Enough has been said to shew that husbandry in Bengal admits of much improvement, or rather that the art is in its infancy.

An ignorant husbandry exhausts the land, neglecting the obvious means of maintaining its fertility, and of reaping immediate profit from the operations which might restore it; rude implements, inadequate for the purpose for which they are formed, and requiring much superfluous labour; this again ill

divided, and of consequence employed disadvantageously, call for amendment.

The simple tools which the Indian employs in every art, are so coarse, and apparently so inadequate; that it creates surprise he should ever effect this undertaking, but the long continuance of feeble efforts accomplishes (and mostly well) what, compared to the means, appears impracticable, habituated to observe his success, I cannot cease to wonder at the simplicity of his process, contrasting it to the mechanism employed in Europe. But it is not necessary that the complicated models of Europe should be copied in India, a passion for the contrivances of ingenuity has adopted intricate machinery for simple operations. The economy of labour in many cases justifies the practice, whether an effect be produced at a smaller expence, or more be performed at proportionate expence, but with less labour. In Bengal the value of money and the cheapness of labour would render it absurd to propose costly machinery, but is no objection to simple improvements, which adding little to the cost of the implements, would fit them to perform more effectually and with less labour, the object undertaken. The plough is among the implements which stand most in need of such improvement. The readiness with which he can turn from the occupation in which he has been accustomed, to another branch of the same art, or to a new occupation characteristic. The success of his earliest efforts in a novel employment, is daily remarked with surprise. It is not so much a proof of the ingenuity and ready conception, as the effect of slow and patient imitation, assisted by a versatile habit, necessarily acquired, where the diversion of labour is imperfect, and though its performance may surpass expectation, it must ever fall short of expeditious and finished performances of the expert mechanic, whose skill is formed by constant practice in a more circumscribed occupation.

The want of capital, employed in manufactures and agriculture, prevents, in Bengal, the division of labour. Every manufacturer, every artist, working on his own account, conducts the whole process of his art from the formation of his tools to the sale of his production. Unable to wait the market, or anticipate its demand, he can only follow his regular occupation, as immediately called to it by the wants of his neighbours. In the intervals he must apply to some other employment in immediate request, and the labours of agriculture, ever wanted, are the general resource. The mechanic finding himself as fully competent as the constant cultivator, to the management of common husbandry, is not discouraged from undertaking it at his own risk. Every labourer, every artizan, who has frequent occasion to recur to the labours of the field becomes a tenant. Such farmers are ill qualified to plan or conduct a well

judged course of husbandry, and are idly employed, to the great waste of useful time, in carrying to market the paltry produce of their petty farms.

If Bengal had a capital in the hands of enterprising proprietors, who employed it in husbandry, manufactures, and internal commerce, these arts would be improved? and, with greater and better productions from the same labour, the situation of the labourers would be less precarious and more affluent; although the greatest part of the profit might rest with the owners of the capital.

Capital is certainly not less deficient to the internal commerce of Bengal than to manufactures and agriculture. The small capitals now employed require large returns. Blessed as Bengal is beyond any country, with an extensive internal navigation, the want of roads, though a great evil, would not sufficiently account for the very limited intercourse of commerce at present existing. But the small capitals which require great profits explain the want of intercourse.

This conspires with the deficiency of capital in manufactures and husbandry to depress Bengal. For in agriculture particularly, which is the basis of prosperity to a country, the want of capital is a bar to its improvement. Under a system of government which neither drained its wealth nor curbed rational enterprise, Bengal could not fail to revive; the employment of capital in the country would introduce large farms, and from these would flow every improvement wanted; and which must naturally extend from husbandry into every branch of science and commerce.

Without capital and enterprise, improvement can never be obtained. Precept will never inculcate a better husbandry on the humble and unenlightened peasant. It could not without example generally engage a wealthier and better informed class. Positive institutions would be of as little avail. The legislature cannot direct the judgment of his subject, his business is only to be careful lest his regulations disturb them in the pursuit of their true interests.

In Bengal, where the revenue of the state has had the form of land-rent, the management of finances has a more immediate influence on agriculture than any other part of the administration. The system which has been adopted, of withdrawing from direct interference with the occupants, and leaving them to tenant from landlords, will contribute more than any of the remedial regulations which have been promulgated, to abuses and evils which had rendered the situation of the cultivator precarious. But not yet having produced its effect, it requires us to review the system of finances, under which abuses had grown, and placed the occupant in a precarious situation, as discouraging to agriculture as any circumstance yet

noticed: for without an ascertained interest for a sufficient period, no person could have an inducement to venture a capital in husbandry.

I am, Sir, yours, &c.

April 2, 1804.

ASIATICUS.

# ON THE INCONVENIENCE OF ABSTRUSE WRITING. ON RURAL AFFAIRS.

*To the Editor of the Agricultural Magazine.*

SIR,

April 24, 1804.

HAVING frequently expressed to others as well as to you, my extreme anxiety to be instructed as to various substances named by philosophical agriculturists, *carbon, alkaline salts, effete lime, &c.* a friend supplied me, a few days after I had wrote to you, with three publications on manures; one by Dr. Fordyce, one by Mr. Kirwan, and one by the Earl of Dundonald. But alas! Sir, they are not much more instructive to me than if they had been written in Greek or Hebrew—*languages I do not understand*—for they contain so much about oxygen, azot, carbonic acid, vitriolic acid, sulphuric acid, phosphoric acid, hydrogen, and Lord knows how many other substances, with names equally unintelligible, that I soon threw them away in a rage, and wrote to my friend, who is now at a great distance, for a *key* to them. I have not yet received his answer. From what I have seen in these books, however, I think, if I could write the English language as well as Hibernicus and Lucas Medicus, I could furnish you with papers for your Magazine, as useful as theirs. Such papers would, no doubt, cut a great figure in your publication, and I should then pass for a *learned philosophical agriculturist*, capable of raising vast supplies of manures from *air* and of “*causing even three blades of grass to grow where only one grew before.*” But then, Sir, if any poor novice like myself should unfortunately ask what I meant by these terms, I should be quite unable to give any satisfactory explanation, and my communications, like those of the correspondents just mentioned, would be of no utility whatever, *to the practical farmer*; and as I find by your title page that your work is devoted “to farmers and rural affairs,” I should consider your conduct exceeding commendable if you refused them a place, unless they were accompanied with such explanations as had been requested, or such as would render them useful. Whether Hibernicus and Lucas Medicus, can satisfactorily explain their letters in your Magazine I do not know, but, as I have already hinted, I cannot but entertain some doubts.

If they can explain them, why have they not done so? I am sure that most of the practical farmers who read your work,

will think my enquiries necessary ; and if they cannot be answered, for God's sake, Sir, let us have something that we understand, in lieu of philosophical matter. Try if you can get Northumbriensis and Meridionalis to yoke their horses and oxen again, as soon as their *bones* are covered with new flesh after the "dreadful contest" in which they have been engaged, for that subject is not only important, but well understood by farmers, and some of your readers are of opinion that the dispute has not been brought to a proper conclusion. I have just received your last Magazine, and observing in its "contents" an answer to A Novice, I hastened to read it, and beg to thank your correspondent D. C. particularly for the concluding part of his letter.

But, "Uncertainty" still remains on my mind, and therefore I must beg leave to trouble him for a *full* definition of carbon or coal; for though I have again read Hibernicus's letter, I do not yet understand what that matter is.—Surely it cannot be *pitcoal*, for that is deemed poisonous to vegetables; and if it be what is obtained by burning vegetables, it cannot, I conceive, produce all the wonderful effects imputed to the carbon so much extolled; therefore I suppose *this* is some other kind of matter. D. C. has kindly addressed me as to "calcareous matter and fixed air," but I know not what they are. He has also stated a good deal relative to lime, (which we obtain by burning lime-stone, and leading it out from the lime kiln to fall into a powder,) and used the words *quick lime*, which, I presume, is merely *powder of lime*. But many farmers maintain that *effete lime* is best. Now I expressed a wish to be informed what this kind of lime is, and I am sorry that your obliging friend, D. C. has not given a definition of this substance.

He says, "A Novice considers that the high sounding words of philosophy\*, and the hard working deeds of agriculture, are to be expected in the same individual."—And most assuredly, Sir, I do expect such an union, or what would be the use of philosophy to the practical farmer? I apprehend that he has not *attentively* read my letter he refers to; if he had, he would have seen by the superior management I noticed in some *philosophical farmers*, that that union actually existed in some parts of the country, and that *the superiority of their crops*, was my principal inducement for enquiring, with such avidity, as to that species of knowledge on which their management is founded.

Yours, &c.

A NOVICE.

\* I mean real philosophical knowledge.

P. S. I beg D. C. will believe that I do not "undervalue the philosopher, because he devotes his hours to inventive speculation in his closet, &c." My anxious wish is, to reap benefit from his researches. I must, however, censure those who publish what they cannot, or will not explain in a full and intelligible manner, to the practical farmer, for whose instruction they profess to write.

## ON THE CULTURE OF TURNIPS.

*To the Editor of the Agricultural Magazine.*

SIR,

May 12, 1804.

HAVING in the 53d and 55th Numbers of your Magazine, enlarged on the cultivation of turnips, I shall only observe to your intelligent correspondent, P. J. (who, in your March Number says, "I will not, however, yet give up the claim of us Norfolk farmers to superior management of the turnip crop,") that I conceive the mode of culture on raised ridges, or drills, with intervals of about 26 inches—a mode which has for many years been almost universally pursued in Northumberland, Roxburghshire, Berwickshire, and East Lothian, is much superior to any other hitherto pursued in this kingdom; that his remarks in former letters seem more in favour of, than against that mode, that my arguments stand unrefuted, and that his statement as to the superiority of the Norfolk farmers, is *only a postulatam*. But when I contend for the superiority of this mode of raising turnips, I cannot go so far as Mr. Lawrence, who has asserted that "to drill is to double the crop;" for the greatest increase of weight it has enabled me to obtain in accurate comparative practice, is from one fourth to one third.

Your correspondent having used the words "*management of the turnip crop*," probably he includes the modes of *consuming* as well as *cultivating* that valuable root; I shall therefore offer a few remarks on the former subject.

With respect to the manner of consuming turnips with sheep in this district, I have only to add to what is stated at page 180 of your Magazine for March, that on medium loams upon which it is not adviseable to fold in winter, the same mode of drawing eight and leaving eight drills alternately, is pursued, that if the succeeding weather towards spring, proves favourable, the sheep are then folded upon the whole of the ground; that the turnips which are carried off to this species of live stock are, almost always, taken to such situations as require manuring, provided they are not so wet or exposed, as to retard the improvement of the sheep, and that in some situa-

tions Swedish turnips in particular, are cut into small pieces, by machines made for that purpose, and given to the sheep in long mangers.

Nearly all the turnips which in this quarter of the country are given to cattle, are carried to hovels and fold yards, and as these have proper covers, and apertures for admitting air, according to circumstances, the beasts may be kept dry and moderately warm, and the turnips consumed in a perfectly clean state.

In Norfolk where great quantities of turnips should be consumed with sheep, they are nearly all used for bullocks, and these cattle are not only, almost all, kept abroad in the fields during winter, but frequently on *stubbles, poaching (sometimes) knee deep*. In these situations, vast quantities of straw are scattered to them in the fields and behind hedges; and I presume that experienced men will not hesitate a moment in deciding in favour of the northward mode of feeding, not only with respect to accelerating the improvement of the animals, but to increasing the quantity of manure.

To the latter subject I beg leave *particularly* to request the attention of your philosophical correspondents. These enlightened Gentlemen will readily perceive, in common with practical husbandmen, that the Norfolk management\* will not only greatly diminish the *quantity*, but injure the *quality* of the manure, and therefore I hope they will step forward to my aid, and *expatiate* on the fertilizing process of fermentation, as well as the advantages of a mixture of animal and vegetable matter in dunghills, and thus show some connection between agriculture and chemistry. In this instance, they will, I hope, apply their knowledge with as much effect as "Chorographus"† has done in his observations on *the course of crops in a great part of Norfolk*. In this course P. J. has offered a sort of *apology*, and it must be allowed, that he has stated as much in palliation of his neighbours, as the case would permit. But he is too enlightened, Sir, to believe that it will be received by practical or scientific men, as a *complete* justification of the management so ably, but delicately, discussed by Chorographus. It appears to me, that the subject for consideration is not, whether the farmers who pursue that course are wealthy, (for that may arise from low ranks and some other favourable circumstances,) but simply this: whether the

\* Under such management the dung is not so enriching and useful as that raised in fold yards, and afterwards fermented in large dunghills.

† Pray inform this gentleman that I do not think it right to draw up a paper on the agriculture of Northumberland. He has stated, that owing to his detention at the lakes in Westmoreland and Cumberland, his information is not so extensive and correct as it otherwise would have been. After I see his paper, I shall endeavour to supply his want of *local* knowledge.

fertility, &c. they now experience could be increased under a different rotation of crops. I shall be glad to see P. J's opinion on preserving our turnip crops from frost.

Here I intended to close this letter, but having, a few hours ago, received your last Magazine, I hasten to answer the judicious enquiries of Agricola Nortfolciensis, who has therein ingenuously acknowledged the superiority of our northern mode of cultivating turnips.

About fifteen to twenty years ago, when I practised that mode at a considerable distance from the Scottish borders, and with labourers not accustomed to that management, I experienced difficulties similar to those mentioned by A. N. Stimulated, however, by information I could fully depend upon, and by the vast crops obtained (on both sides of the Tweed) under that system, I persevered, and surmounted them. In all cases, but especially in such as differ so much from the common mode as that of cultivating turnips on raised ridges, the prejudices of farmers, and the habits and awkwardness of labourers, are great obstacles to improvement, and sometimes the most perfect implements are so much mismanaged as to produce effects sufficient to shake the resolution of the most determined and patient farmers. Soon after I commenced the culture of turnips on raised drills, I overheard my honest ploughman gravely prognosticate my ruin if I persevered in using those d—d "gim cranks," the drill machines, &c. which they *sapiently* pronounced unfit for any useful purpose except that of "pleasing the bairns," and for a considerable time I suspected, that their extreme dislike to them was the principal cause of their being so frequently broken, &c. In such cases the most admirable plan is for the farmer himself to obtain such instruction as to be master of the different operations, or to obtain servants who are *thoroughly* acquainted with them, but as the drilling of corn has been long practised in the southern counties, that mode of cultivating turnips will be the more readily accomplished in those parts.

When the dung is not in a very rotten state, it is put out of the dung cart into the open furrow in a quantity sufficient to manure that and two open spaces on each side, the horse moving quickly in that in the middle, and the wheels in the two outermost open furrows; two rows of dung heaps will therefore manure ten drills which are from about seven to eight yards broad.

To expedite the *equal* spreading of manure over as great a breadth of land, would require two rows of dung heaps in the broadcast husbandry, in which they are not more quickly laid on than in the drill mode under consideration. Expert women, girls, and boys, can spread it (with forks) into the open



furrows at as small an expence per acre as in any other mode. When the dung is short, the rows of heaps are laid from the carts for only *three* drills. Shovels and spades are then used to spread it *equally*, and it is almost unnecessary to say, that manure in such a state requires more labour in spreading than larger dung, in *any mode of culture*. It is important to know that in our mode of drilling, *all* the dung, even in a long state, may be easily covered in, that it is laid close to the roots of the plants, and that less of it will suffice than upon an even surface. The latter mode of ploughing is more expeditious than drilling, if the drills are raised and split with common ploughs, but not if these operations are performed with double breasted ploughs, held by strong and expert ploughmen.

The rolling immediately before and after the seed is sown, reduces the height of the drills very considerably, and in some lands they are very little above the level of the intervals. Upon all soils these intervals are much filled with earth by the first hand and horse hoeing, and the surface of the ground is then pretty even, in which state it may be continued by using the scuffer instead of the double breasted plough, in the second horse-hoeing. This will in a great degree obviate the objections which have been urged against raised drills with respect to the turnips being more exposed to frost than when the surface of the ground is flat. Practice, however, shews the futility of these objections; for much the greatest number of agriculturists in this quarter of the country, persevere in laying the earth close up to the turnips with the double breasted plough in the last horse hoeing. Last year I managed some in *each way*, which were consumed in March last; and I could discover no difference in the effects of frost. Accurate experiments are, I apprehend, wanting to determine whether *good crops* of drilled or Broadcast turnips sustain the greatest injury from such weather; various opinions are therefore entertained on that subject. In *good crops*, under each mode of culture, *sown and consumed at the same time*. I have not been able to discover any material difference, and am inclined to think that large and middling sized turnips are generally injured in an equal degree. It is clear, however, that *very small* turnips are always found in the soundest state after severe frosts. Were I even *convinced* that frost is more injurious to turnips on our drills than to those obtained by keeping the surface of the ground perfectly flat, I would still pursue our northern mode of cultivation, under a firm conviction that the balance in the scale of advantages and disadvantages, would be *greatly* in its favour. Besides it should be recollected that very destructive frosts do not prevail above one year in three or four, and that we seldom perceive their baneful effects until about the middle of February, by which time much the greatest part of

our best turnips is generally consumed. I have sown Swedish turnips for many years past, at various periods of the season, from May 16, till about the middle of June, and have never been able to obtain them of a size nearly so large as that of the American turnip, and therefore in a mode of cultivation where the weight of the crop necessarily depends much more on an *increase of size* than on the *number* of the turnips, I should not deem that a proper kind for the purpose of an accurate comparative experiment between the drill and broad cast husbandry.

It will give me much pleasure to communicate any further particulars relative to our mode of cultivation, drill machines, &c. which *any* of your correspondents may request. The minute description of an addition made to the drill machine, in the last letter of Agricola Norfolciensis, and in several other circumstances of a similar nature, which have been communicated by him and P. J. entitle these valuable correspondents in particular, to *minute* information, in return for such favours. Indeed it is only by pursuing a plan of this nature, that the discoveries and improvements of particular districts can be speedily known in most other parts of the country, and that the vast importance of your publication can be acknowledged by practical husbandmen.

I am, Sir, yours, &c.  
 AGRICOLA NORTHUMBRIENSIS.

P. S. It is but justice to Mr. Lawrence, to state, that when I reckoned his sentiments too sanguine relative to the advantages of drilling turnips, I had in contemplation none but *fresh soils*—*soils in the most proper state for the growth of that root*; and that it had escaped my recollection, that the old beaten and unprofitable track of our *great grand fathers* was still followed in several parts of the country. I now, however, recollect, that about sixteen years ago I saw turnips cultivated *both in our drill and Broadcast modes*, on some middling turnip land which had been upwards of twenty years in tillage. From the result, I am strongly of opinion that on such soils Mr. Lawrence's expectations would not be disappointed.

A. N.

## THE ART OF REARING DOMESTIC FOWLS AFTER HAVING BEEN HATCHED BY ARTIFICIAL HEAT.

*To the Editor of the Agricultural Magazine.*

SIR,

**I**N your last Number you were kind enough to insert my communication on the method of hatching fowls; the present paper is devoted to the expedients for rearing them

after they have been so artificially produced. It is obvious, that the hens of the farm-yard will not be sufficient to nurture and protect the quantity of poultry which would be generated under such circumstances. We need not consult the writings of Gesnar, Willoughby, and others, on rural œconomy, as the only exclusive means of gaining information on this subject. Capons have been taught to lead about, watch over, keep warm, and cherish the chickens entrusted to their protection. Monsieur Reaumur has seen 200 chickens thus attended to by three or four capons, which clucked to call their adopted children around them, and when they discovered any delicate nourishment, redoubled the cry of invitation. Even the male species possessed of all their natural powers for sensual gratification, have been found to accommodate themselves to this family duty; and when allured to dalliance and enjoyment, they have satisfied the sensations of the moment, and instantly afterwards have returned to the same occupation. Every industrious housewife who has been accustomed to take lessons on natural history under her own porch, will have frequently observed the docility of this proud and generous ornament of her premises.

Monsieur Reaumur was, however, not satisfied with confining himself to such a resource in an object he considered of so much magnitude and importance. As he hatched the little animal, so he endeavoured to cherish it without the assistance of the parent. He contrived small boxes which he lined with furs, to which the chickens might conveniently retire, because the heat of the rooms in which they were collected, could not be rendered equal, and because they occasionally wanted a substitute for the friendly warmth of the maternal bird.

In fine summer days when the first debility of infancy is overcome, they may be exposed to the open air of a court yard; they should, however, be put under large coops on the warm green sward, with liberty however, from the width of the interstices, to make occasional sallies for the improvement of their strength. There is no reason to apprehend that they will make any long and dangerous excursions, for they are naturally gregarious. The good housewife has often often observed, that if any of her little feathered flock from superior force or courage, has ventured to play truant beyond the usual boundary, he presently shews by his cries that he is uneasy, seems to listen with great anxiety, and soon discovers the warm mansion she has provided, where he cheerfully joins his companions.

The food to be administered is a material consideration. Chickens are usually more than a day before they take food after extrication from the shell, and the reason is, because they

have imbibed a large portion of the yolk of the egg which remains for some time undigested, and by which they are subsequently nourished. M. Reaumur suffered the period of a day to elapse therefore before he gave food; he then supplied them with a few crumbs of bread, and after some days, he mixed these with a little millet, and soon afterwards they would pick up insects and vegetable diet for themselves.

A little attention to the anatomy of the animal, will shew the small quantity of food they require in this early state. A chicken when first hatched, has the crop or first stomach (formed to supply the want of teeth and mastication in birds,) of the size only of a pea; it is a few weeks before it attains the size of a cherry. With these minute organs, a very trifling portion of nourishment can be admitted.

I will conclude the short remarks on the subject of food, with a single observation, for the sake of economy. M. Reaumur found boiling the grain advantageous, and he considered the poultry subsisted on nearly half the quantity after this preparation.

The labour attending the scheme here recommended, is very trifling. A single person will have time enough to look after a great number of stoves and an immense flock of the live produce.

Perhaps an employment of this kind is more adapted for villagers than for farmers, and more suited to the neighbourhood of great towns and capitals, on account of the saving of the carriage, and the price which the luxury and opulence of such places will afford for this delicacy of the table. Oxen and sheep may be driven by one person many hundred miles, and may be provided for in their progress at a very small charge; the conveyance of poultry of this kind is attended with very serious expence.

Perhaps the most convenient time for this artificial generation, is that when the birds leave off setting, and the most profitable certainly in the vicinity of great cities: but in this method of hatching, you may exceed the established economy of nature, for by the fit regulation of heat in the stoves, you may hatch at all times of the year not only poulets, but turkey poults, ducklings, and green geese, may at any season gratify the palate of the epicure. By due care, the eggs laid at the end of September will do for the stoves of December. If at any time a scarcity arise, it will be for one month, until the hens lay again, the end of January.

This subject in one point of view, is of public importance. Eggs both in town and country, are no inconsiderable part of the national subsistence, and after the scarcity we had so much reason to apprehend, to enlarge the means of subsist-

ence, will appear no small benefit to the statesman, the patriot, and the friend of humanity.

The interruption to laying eggs, is not only from the coldness of the season, but from the periodical moulting. M. Reaumur proposed to accelerate the time of moulting, by plucking away gradually a considerable part of their feathers.

The preservation of eggs is easily effected to any distance of time by a varnish; even smearing the shells with a little butter, or any kind of unctuous matter, will answer this useful purpose. The reason will appear clear to those of your readers who have inspected the paper in the last number. It has been shewn, that an atmosphere of its own surrounds every egg, and that no procreative effect is produced without this humidity which is constantly exhaled. It seems needless to observe, that no egg intended for the stoves should be thus treated. Barren eggs, or those of hens which have never been impregnated by the male, will never become rotten, but the treading of a cock will make all the eggs fruitful for a month subsequent to the act.

There are some philosophical discoveries which are connected with these experiments. It has excited much surprise among the students in natural history, when they have observed the general agitation in a poultry yard on the occasion of a bird of prey flying, scarcely within the region of observation, over their domestic premises, and it has been doubted, whether this phenomenon were the result of instinct or imitation. Chickens produced in the way we have described, having no communication with the parent bird, would remove this uncertainty.

If we found chaffinches, sparrows, and other small birds, nurtured artificially, building their nests at the usual time, under the circumstances peculiar to each of the species, much of the difficulty in which philosophers have been involved on the wonders of the intellectual world would be relieved, and what has required the investigation of centuries, will be resolved by a few insulated observations. By these we should presently discern the several tastes, inclinations, and modes of industry, and this curious branch of zoology would become a didactic science founded on the most satisfactory principles.

The progress of generation from the days of Aristotle to our own time, has involved the learned in continual disputes. By these experiments, every thing would be developed (in the Latin proverb, *ab ovo usque ad mala*,) the stoves would afford a complete series, by denudating the yolk in every stage of its progress towards animation.

I am, Sir, yours, &c.

AFRICANUS.

Rouen, April 24, 1804.

# STATE OF CORN AND CATTLE IN A DISTRICT OF NORTHUMBERLAND AT THE PRESENT TIME.

*To the Editor of the Agricultural Magazine.*

SIR,

May 12, 1804.

ON the 14th ult. I sent you a statement of the corn, cattle, and sheep markets in this quarter of the kingdom, and also an account of the very unfavourable weather which has prevailed in it during the winter and spring. From that date until the 26th of April, the weather was either very wet, snowy, or frosty, and very unfavourable for the sowing of the remainder of the oats and barley seed. On the 20th, 21st, 22d, and 23d of last month, the frost was almost as severe as we generally observe it in any part of winter—vast numbers of lambs in the elevated parts of Northumberland, Berwickshire, and Roxburgshire, were then frozen to death, and I am sorry to say, that upon the whole, the high land lambs in these counties will not exceed from above one half to, at most, two thirds of the usual number. From this deplorable picture I now proceed to relate some changes of a most agreeable nature. From the 26th ult. to the 10th instant, the weather has been highly favourable, a most rapid vegetation has taken place in the spring corn and grass (but the appearance of the wheat is not very propitious) and the dreary aspect of the country has been succeeded by a most delightful and promising verdure. Still, however, the turnip fallows, where sand does not predominate, are rather too wet for a proper pulverization.

Labouring men obtain about the same wages as those paid last year. Those of women are considerably higher now than last season, within the last ten days one great market for fat stock at Morpeth, has been but indifferently supplied, especially with beef, and prices of fat sheep and cattle have, in consequence, risen considerably. At present the latter sell readily at 8s. 6d. to 9s. per stone of 14lb. new shorn sheep at 8d. per lb. sinking the offal—so that two year old wethers of the new Leicester breed now bring from about 50s. to 70s. per head. Swine are still scarcely saleable. Prices of corn have also advanced in this quarter, and are now as follow, wheats 6s. to 6s. 4d. and some 6s. 6d. to 6s. 8d. Potatoes, oats (much the best and most prolific variety of that grain) 3s. to 3s. 4d. other kinds of oats, 2s. 6d. to 2s. 9d. Barley to 3s. to 3s. 2d. Rye 3s. 6d. to 3s. 10d. and peas 4s. 6d. to 5s. per Winchester bushel. Draught horses are uncommonly high, as are also those grazing cattle, which are likely to be fit for the butcher, within a month or six weeks; and lean cattle sell more readily and at higher prices than their owners expected. Several oxen

weighing from 120. to 140. stone each, have lately been slaughtered in this country—one of them only five years old, which received no other food but common fodder, grass and turnips, weighed upwards of 132 stone exclusive of fat, blood, hide, &c. The heaviest and best short horned cattle in the kingdom are those in the county of Durham, and the northern parts of Yorkshire. Bulls from those parts, obtained at great prices, have for many years, been extensively used in this quarter, and it is now supposed that our cattle are nearly equal to those of our more southern neighbours. Great numbers of tups of the new Leicester breed are annually let in this country, at from 5l. to 50l. or 60 guineas, and some as high as 150 guineas or more, for the season—and ewes are taken to some rams at two guineas and a half per ewe. This excellent breed of sheep was introduced into this county about thirty-five years ago, by Messrs. Culley, who by extensive farms and the breeding and letting of rams, have, in that period *from a small beginning*, realized a landed fortune of upwards of 3,200l. a year, besides which, they occupy about 4,500 acres of arable land. These gentlemen most laudably excited that spirit of industry and emulation which has tended to the rapid amelioration of our agriculture and live stock. Thus they happily promoted their own and their country's interest. Such intelligence as this paper contains, if transmitted from various parts of the country, would, I conceive, render your Magazine still more useful, not only to breeders and graziers, but to tillage farmers, and I should be glad if several of your correspondents would *frequently* communicate similar information.

I am, your's, &c.  
 AGRICOLA NORTHUMBRIENSIS,

P, S. Sheep are generally very lean, and it is certain that this year's wool will fall much short of the quantity shorn last season.

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#### QUANTITY OF LAND BEST SUITED TO CULTIVATION BY A SINGLE OCCUPANT.

*To the Editor of the Agricultural Magazine.*

SIR,

**P**ERHAPS of late years, on the subject of Agriculture few questions have occasioned so much difference of opinion, as that which relates to the quantity of land most suited to be under the cultivation of a single occupant. This is not only of importance to landlords, but, to tenants, and it requires no small portion of prudence in the former to counter-

act ambition in the latter. The following observations have appeared to me so perfectly consistent with sound sense and just reasoning, that I have not been able to repress my inclination to give them publicity through the medium of your miscellany.

Those farms are the best size which admit of their being kept in complete cultivation with the full exertion of those by whom they are possessed. If farmers occupy more than they are able to cultivate properly, the public will suffer by the produce being deficient, while the public, as well as farmers, are hurt by farms being less than they can manage, as in this case, some part of their labour, as well as of their capital, is lost.

It is however evident that the size of farms ought to be relative to their situation, to the state of the markets, and agriculture of the district, as well as to the soil. Thus, while in this country, farmers of sufficient capitals can easily manage 600 acres of land that is not uncommonly stiff, or even more, where a considerable part of it must be in grass and green crops, from their not being able to obtain more than their farms produce; those who from being near large towns can procure dung for having nearly their whole grounds yearly in corn, find the half of this quantity sufficient. And it is also evident, that the present population of Britain rather requires the same course of agriculture, nor does it admit of the same limitation in the size of farms, as is necessary in countries where the inhabitants are more numerous, as in a remarkable degree, is the case in China.

I am confident, that of the numerous farmers who have been placed in the list of the unfortunate, a very large proportion have precipitated themselves into that situation, from the disposition to undertake larger concerns than their capitals have enabled them to conduct. I am willing to allow every thing I ought, both for their industry and their talents; but the greatest industry and the brightest talents are misapplied in their object, and disappointed in their aims, if a fund be not previously raised, which is necessary under such circumstances, to render both labour and ingenuity productive.

I am, Sir, Yours, &c. &c.

A LANDLORD.



## CRITICAL CATALOGUE.

*General View of the Agriculture of Shropshire: with Observations, Drawn up for the consideration of the Board of Agriculture and Internal Improvement. By Joseph Plymley, M. A. Archdeacon of Salop, in the Diocese of Hereford, and Honorary Member of the Board.*

**S**HROPSHIRE is an inland county, bounded on the N. by Denbighshire, the detached part of Flintshire, and by Cheshire; E. by Staffordshire; S. by Worcestershire and Herefordshire; and W. by Radnorshire, Montgomeryshire, and Denbighshire. It lies nearly within  $52^{\circ}$  and  $53^{\circ}$  north latitude, and  $2^{\circ}$  and  $3^{\circ}$  west longitude from London. Its principal natural division is made by the river Severn, which runs from N. W. to S. E. and divides it into parts not very unequal. It is farther subdivided into fifteen hundreds, or districts answering thereto, viz. Oswestry, Pimhill, Bradford North, Bradford South, and Brimstrey, on the N. E. side of the Severn; the liberty of Shrewsbury, the franchises of Wenlock, and the hundred of Stotterden, extending on both banks of that river; the hundreds of Ford, Chirbury, Cundover, Munslow, Overs, Purslow, and the Honour of Clun, on the S. W. side of the Severn.

The climate of this county varies, on account of the irregularity of its soil and surface. The harvest on the eastern side, where the land is warm and flat, is frequently ripe about a fortnight sooner than in the middle of the county, where the vales are extensive, but where the surface is less light, and the bottom often clayey. Hay and grain are both gathered earlier there than on the western side, where the vales are narrow, and the high lands frequent and extensive, although the ground is not in general so stiff, and lies for the most part on a semi-rock full of fissures. The easterly winds prevail in spring, and those from the west in autumn.

Shropshire contains a great variety of soils and surface; and the former in particular, have that variety so much intermingled, that any general account must be received with every allowance for exceptions; though no part of this county can be called flat, generally speaking, yet the N. E. parts are comparatively so. In the hundred of Oswestry, there is a considerable quantity of deep loam and of gravelly soil. Some marl in that parish, and in the parish of West Fulton, a large portion of black peaty bog, drained and draining. On the N. W. borders of the hundred, adjoining Denbighshire, the soil lies over a strata of coal and limestone. On the S. E. side the soil becomes sandy. Pimhill hundred contains a mixture of boggy land, and of sand. Bradford North has some low land of a peaty nature, with some good meadow land, a quantity of sand, and some gravelly soils. In Bradford South and Brimstrey, it is generally a sandy loam. In the franchise of Wenlock pale coloured clays prevail. In Stotterden, Overs, and Munslow, there is also much clayey and stony soil. In Cundover hundred there is a good deal of gravelly loam, sand, and clay. In the liberties of Shrewsbury and hundred of Ford, much pebbly loam. Cherburg is uneven, with some plains of a light-coloured loam or clay. Purslow and Clun are very uneven, with some pale coloured clays and lighter

soils. In this part of the work some useful remarks occur, which, for the information of some of our readers, we shall quote.

“ It would tend to simplify the communication of knowledge upon this subject, if the terms siliceous, argillaceous, and calcareous, were brought into general use, and strictly applied according to the predominating substance. These terms, however, though sufficiently familiar to all who have even inquired after mineralogy, are very unequally adopted into the English language. Argil, and argillaceous, are explained in Johnson’s Dictionary. The Latin word *calx* is also admitted, but not its derivative, calcareous; and *silix*, though equally entitled to a place with *calx*, is excluded, as well as siliceous. The word siliceous, indeed, is found in Johnson’s Dictionary, as derived from *cilicium*, a particular kind of hair-cloth, and therefore has no reference to *silix*; and the same word is given by Bailey, partly in the sense siliceous is now used. In an inquiry of this kind, vernacular words will be preferred, wherever they can be properly made use of; but it may not be amiss to shew some of the natural compositions usually intended by the designations specified above, since they are not fully explained but in books of science, as well as the easier means of ascertaining the application of them. Siliceous then, as commonly applied, comprehends flint, rock-chrystal, or quartz, clear and opaque, and also most of the precious stones. Siliceous substances are hard and insoluble in all acids but that of flour spar: they strike fire with steel. In powder, they will not knead with water. Alkalis (sal sodæ, &c.) will unite with them in fire, and form a compound, which is soluble in water.

“ Argillaceous, comprehends clays, marls, boles, slates, or schistus, and mica. Argillaceous substances adhere to the tongue, or any wet and soft body, when solid, and are very kneadable when moist. They are soluble in acids, but alkalis act less upon them than upon siliceous earths. Marls effervesce with acids when crude, but not when burnt. The goodness of marl depends upon the quantity of calcareous earth mixed with the clay. Bole is an indeterminate word, signifying some kind of clay. Slates slit into plates, or lāmīnæ. They comprehend, with argillaceous earth, that which is siliceous and calcareous. Besides the roof-slate, or schistus tegularis, which contains more *silix* than argill (and which, therefore, according to the proposed definition, would belong to the siliceous earths), mineralogists add to this class the flag-stone, which, though it contains some *silix*, will not easily strike fire with steel, nor, in general, effervesce with acids. The same is observed of argillaceous grit, freestone, or sandstone, which is included also among the argillaceous earths. It may be cut easily in all directions, and exhales an earthy smell, when fresh broken and breathed upon. Mica has more *silix* than argil, and a metallic appearance. Its purest state is colourless; but it takes different colours from superfluous ingredients, principally from iron. It contains also magnesia.

“ Calcareous earth, or lime, predominates in most stones which are soft enough to be scratched with a knife; these are chalk, limestone, marble, spars, gypsum, or plaster of Paris. As lime is usually

combined with fixed air, a small quantity of nitrous acid dropped upon calcareous earths, will cause a frothing, by the escape of the fixed air.

“Granite is a compounded rock, consisting of felt-spar, quartz, and mica, and occasionally hornblende, streatites, garnet, or basaltcs.

There are mines of lead ore, of a good quality, on the western side of this county, which have been very productive. Calamine is also met with, and the rock at Pimhill is strongly tintured with copper. On the eastern side of the county, coal of an excellent quality is found in great plenty. In the north district is a fine quarry of white sandstone; at Orton Bank there is a stratum of the Bath and Portland stone; in the west district is a siliceous grit, good for building, but the general stone is argillaceous. Flags, and stone slates, for roofs, are also found. At Pitchford, about seven miles S. E. of Shrewsbury, is a red sand stone, approaching the surface in many places, and from which exudes a mineral pitch. From the rock is extracted an oil, called Bitton's British Oil, which has been used medicinally, and has been thought to possess many of the properties of what is called Friar's Balsam. It is also from a rock of red sand-stone that the fossil tar-spring, near Coalbrook Dale issues. Salt, it is thought, might be obtained in this county; but its proximity to the salt-works at Cheshire might probably prevent any profit from an adventure of this kind. At Admaston, near Wellington, there is a salt medical spring, chalybeate and hepatic. At Moreton Sag there is a mineral water of an aperient nature; and, not far from the parsonage-house, is a spring which, according to Dr. Darwin, is valuable as a strong chalybeate. Sutton Spa, celebrated for its medical virtues, is situated within two miles south of Shrewsbury. Various other mineral springs are also met with.

There are a hundred or more rivers and brooks in this county; but the Severn is the only navigable river. The vessels chiefly employed on it are barges, from 20 to 80 tons burthen, which trade very much between Shrewsbury and Gloucester.

The freeholders and copyholders of Shropshire are estimated at not less than 3000.

“The landed income of this county,” says the Report, “may be about 600,000l. per ann. and of this, one-twentieth part may be paid in tithe by composition (for scarcely any is gathered) to the parochial clergy. I made my calculation of the value of the county, without looking at the acreage; and I am somewhat confirmed in it, by adverting since to that datum, and to Mr. Bishton's assertion in the Original Report, that land lets, upon the average, at 15s. per acre titheable. Take the county at 896,000 acres, the rental, at that average, would be 671,600l. a year, leaving a deduction of 71,600l. a year to be made for the waste lands; so that, as a general position in round numbers (pretending not in this, or any other assumption of political arithmetic, to be more accurate than something near the truth), I perhaps do not greatly err, in reckoning the value of the county, in land and houses, at 600,000l. per ann. or that, at least, it is not an excessive valuation, when intended to include the tithe. Without including the tithe, I should think 15s. per acre rather an high valuation for the county throughout, though not so, perhaps, for the side of the Severn where Mr. Bishton resides.”

The tenure of this county are mostly copyhold, but of easier customs than in the neighbouring counties.

The public buildings lately erected have been considerable; several mansion-houses have been formed, rebuilt, or improved; and several have been converted into farm-houses. There are considerably above 100 houses of good respectability, kept up and occupied chiefly by their owners.

The farm-houses and buildings, in general, are very inconveniently situated and ill-constructed, many of them being at one extremity of the farm; but the greatest part are situated in villages; those that are not so are mostly built in some very low situation, by which means the farmer entirely loses the drainings of his fold-yard.—In farming farm-yards, the confinement of pigs seems not to have been sufficiently attended to.

The size of the farms are very various, from that of one to 500 acres, on the east side of the county, to the little farm of 20 acres on the borders of Wales. The generality of farms rise from 50 to 200 acres. It is much the practice to enlarge them; and, in the last thirty years, the number of farms may have diminished one third. The farms, generally speaking, are arable, grazing, for hay, for the dairy, rearing, and feeding.

The Shropshire farmers are very industrious; but they are too much accustomed to the use of strong malt liquors.

Land is measured by the statute acre, and it varies from 8s. or less per acre, to 12s. in bad situations; and from 12s. to 15s. in more favourable situations. Near towns, land lets from 2l. to 6l. an acre. The average price is about 15s. per acre, titheable. The rack tenants of sporting landlords are frequently subject to the inconvenience of keeping dogs; and, in many places, are expected to draw a load, or a certain number of loads of coal annually.—The average of the tithe of rent is estimated at 2s. in the pound. Poors' rates are from 1s. to 2s. 6d. in the pound.

Some leases are for years, generally twenty-one; and others are for lives, mostly for three.

The price of labour is about 14d. per day; the rate of wages from 6l. to 9l. per annum.

Several thrashing machines have been erected in different parts of the county; some ox-teams are used with gearing, and some with yokes; wheat, in general, is reaped with broad hooks, or saw sickles.

A great deal of land has been enclosed, and is still enclosing in this county; but very large wastes and commons still remain.

The rotation of crops in this county is wheat, barley, turnips, barley, and clover; or pease, wheat, turnips, barley, or oats and clover. Turnips are sometimes stacked for winter use.—The culture of potatoes increases annually.

Dr. Bahington has enumerated nearly 140 different grasses, and scarce and curious plants which are indigenous in this county.

The farmers of Shropshire have moderate sized gardens; and some of them have small orchards, from which they make a little cyder for home consumption; and, on the confines of Herefordshire and Worcestershire the orchards are larger, and cyder is made for sale.

Notwithstanding large yearly falls of timber, there are still some very fine woods of oak growing in Shropshire. There is a good deal of hedge-row timber also, consisting principally of oak and ash, a few wych and other elms, still fewer beech, lime, and sycamore. Poplars are not uncommon by the sides of brooks and small rivers. There are a few yew trees, and hollies have been plentiful. Birches are common in the S. W. district. There are also some plantations of larch and firs.

There are several large mosses in Shropshire, which might be drained with much advantage.—Draining is one of the greatest improvements in this county. It is chiefly done with stone, and is contracted for by professed drainers at 6*l.* per rod of eight yards.

Paring and burning are but very little in use in this county.—The manure is chiefly farm-yard dung, lime, and marl. Lime is purchased for about 10*s.* or 12*s.* per waggon load, of from 40 to 50 bushels.

The following suggestion seems worthy of our notice:—

“I doubt,” says the author of the report before us, “whether the custom of burning couch grass (*Triticum repens*), called in this county Scotch grass, with fire, is so good a method of destroying it as by lime. When a field is cleaning from this noxious grass, the roots may be carried to a heap, without staying to shake the soil from them so completely as is necessary for burning; and if, in making the heap, clods of hot lime, of the depth of a few inches, are placed between every layer of about one foot thick, the heat of the lime will reduce them to ashes. If the smoke is so great as to make flame apprehended, soil should be cast upon the heap, to prevent this. The quantity of ashes produced by this method, is much greater than in the ordinary mode, the plant is as completely destroyed, and the lime so slacked and incorporated, appears to do much more good to the land, especially to ground that has been used to that manure. It is a good method to cut the weeds from the hedges, &c. and burn them in the same way.”

The advantages from weeding ground do not seem to be sufficiently attended to in this county. Many farmers do not weed their meadows or pasture grounds at all. There is, however, an instrument of good construction used here, for pulling up docks. It is made of iron, ending in a blunt fork, and fastened to a piece of wood, somewhat longer than the handle of a spade. The fork penetrates within the ground two or three inches, and fastening on each side the dock root, raises it out of the ground by means of a bow of iron that projects behind the fork, and act as a lever, when the handle is bent downwards.

There are some meadows floated in this county by preserving levels from streams of water, but little of this improvement is done in a masterly manner; though floating has been long in practice by a few of the best farmers, and the use of the spirit level is known.

“The neat cattle of this county,” observes our author, “cannot be referred to any of the distinct breeds that writers upon live stock have enumerated, though, probably, they are much the same breed as that spread over Warwickshire and Staffordshire. The old Shropshire ox was remarkable for a large dewlap. There have been many cattle reared within the last 20 years, from the improved breeds of Lancashire, Cheshire, Leicestershire, and, that of Mr. Fowler, of Oxfordshire. Upon the south confines of the county, the Herefordshire breed is now gaining ground; and some Devonshire cattle have been

brought to Kinlet-hall. About Bishop's Castle is a good-breed of cattle, the colour a dark red; they are more uniform in shape and colour than in any other district in the county; the oxen at four years old sold upon an average at 15l. a piece, unfed, previous to the late extraordinary prices. At Welcot, many Alderney cattle have been bred for the dairy, and numbers of the Galloway breed have been reared there. A male and two female zebus were sent by Lord Clive from Madagascar: the females have each had a calf; they are themselves considerably less than the smallest cows of the Kyloe breed, in either the Scotch Highlands or Islands, but their calves at six months old, are nearly as large as their dams, and endure showers of rain, against which the old ones run to shelter. A year or two ago, a bull at Botvyle, descended from Mr. Princeps' stock, out of a Shropshire cow, and bred in this county, seemed to vie for superiority with that bull of which Mr. Princeps sent a lineal representation to the Board of Agriculture some years ago. They measured respectively as follows:—

	Staffordshire Bull.			Shropshire Bull.	
	ft.	in.		ft.	in.
From head to tail	7	8	-	7	8½
Thickness of the horn	0	4	-	0	0
Do. at the root, in circumference,	0	0	-	0	8½
Do. in diameter, not	0	0	-	0	3
Girth of the neck, close to the head,	4	3	-	3	6
Do. of body, close to the fore legs,	7	9	-	6	11½
Do. of the belly,	8	9	-	7	4
Height at the shoulder,	5	1½	-	4	8
Do. putting on of the tail,	5	1½	-	4	8
Length from hip to tail,	2	2	-	2	5
From hip to hip,	0	0	-	2	0½

"The last measurement is not given in the print of the Staffordshire bull, nor the age or condition specified. The Shropshire bull was six years old, and lean. At Purflow-hall is the bull that was shewn at Shifnal, December 29, 1800, and which was then adjudged to have won the wager of 100 guineas upon which he was brought there, viz. that he was a better bull than any of the Leicestershire breed. He appears to me to combine many of the favourite points of Mr. Bakewell's breed, with those in which the old Herefordshire breed were thought to excell. Being fat, his dimensions cannot well be compared with those of a lean beast; but I add those of a bull now eight years old, the property of Mr. Perkins, of Wilderley, about eight miles south of Shrewsbury, and which was bred in this county, out of a cow purchased from Mr. Hilditch, of Cheshire, viz. from head to tail 8 feet 1½ inch; the horn, close to the head, in circumference 9½ inches; girth of the neck, close to the head, 3 feet 10 inches; girth of the body, close to the fore-legs, 8 feet; ditto of the belly, 8 feet 10 inches; height at the shoulder and putting on of the tail, 5 feet 4 inches; length from hip to tail, 2 feet 2½ inches; across the hips, 2 feet 3 inches."

The breed of horses in this county is not sufficiently attended to, the farmers being apt to send their mares to the cheapest stallions, without any other consideration whatever, and consequently very few

good stallions are brought into the county. In the strong lands, four or five horses are used to a plough, or six or eight oxen. The ox-teams used to consist of ten oxen yoked : now those who use them frequently plough with five oxen single in gearing, or with four oxen and a horse to lead them.

A great number of hogs are grown in Shropshire. The original hog of this county was a high-backed, long-eared animal ; but it has been crossed by various breeds, and is now rarely to be met with unmixed. Pork and bacon are much used among the poorer people.

The roads in Shropshire, both turnpike and private, are generally bad, notwithstanding the divers Acts of Parliament which have been made for their improvement.

Although Shropshire was behind most of the other counties in adopting the plan of forming artificial canals, which may perhaps be attributed to the fine river which it possesses, it has of late made a rapid progress in the execution of this valuable improvement. There has probably been more ingenuity displayed in the means taken for overcoming the various obstacles which lay in the way of the canals of this county, than has hitherto been shewn in those of any other county in England.

The population of Shropshire is considered as being greatly on the increase. Speaking of the return made under the Act of the 41st Geo. III. our author says :

“ That return states this county to contain 31,182 inhabited and 929 void houses, 34,501 families, 82,563 males, 85,076 females, 45,046 persons employed in agriculture, 35,535 mechanics, and 70,504 persons not comprised in either of those two classes. The total number of persons 167,639. It is possible that a very few districts may be omitted in this return, and that some may have been counted twice over, from the circumstance of townships and parishes not being always co-extensive. The inaccuracy of the return, with respect to the number of persons employed in agriculture, is very obvious. The Act does not say whether it was the intention of the Legislature to confine this list to males, and there are three ways in which it has been made. In some returns, the males only employed in agriculture are given ; in others, the list contains also women keeping farms, and dairy-maids : and again in others, all the men, women and children of a farmer's family, or of a labourer's in farming business, are added to that class. The same is the case in the return of the mechanics, and this return is further doubtful, as miners are in some instances added to it, and in others stated as belonging to those not comprised in either of the specified employments ; whilst the persons making the return in some parishes, have seemed to consider it necessary to class all the inhabitants under the head of agriculture or of trade ; as I observe them so stated where I know there are resident clergymen, at least, of respectability, and who have families.”

There are no agricultural societies of any standing in Shropshire : one has been lately established at Drayton, upon the North-east borders, and another at Shifnal, upon the East borders ; both these districts adjoin, and are connected with Staffordshire.

We cannot close this abstract, without paying a tribute of praise to the volume from which it is formed. The moral and religious feelings of the Editor reflect on him the highest honour.

# HISTORY.

## National Transactions.

### GREAT BRITAIN.

THE change of Administration, hinted at in our last, has at length been effected. The persevering efforts of a sort of junction between the old and the new opposition parties, have compelled Mr. Addington and his friends to retire. The Grenville party have uniformly been the opponents of the late ministry. Mr. Fox had been for some time wavering; but finding, at length, that there was no probability of his being admitted as a coadjutor with Mr. Addington, he became more decided in his opposition to the measures of that gentleman. Mr. Pitt had, in some degree, kept aloof from the contests in Parliament; overtures had been made to him to come into power, provided he did not insist upon bringing his friends along with him; and, although he refused these, he seems long to have expected that Mr. Addington would readily comply with the measures he proposed, and yield him the honour of them in the eyes of the country. Finding, however, that his views were not at all times complied with, and probably growing impatient at his long exclusion from power, he began to give decided symptoms of a wish to overturn the administration. Such was the state of the respective leaders of opposition, when a coalition began to be talked of, for the purpose of compelling ministers to quit their stations. So different, however, and even opposite were the principles and views of the several parties, that such a coalition seemed next to impossible, and the idea was by many treated with the utmost ridicule. At length the expedient was suggested of forming a ministry on a broad basis, which should comprehend all the great talents of the country, without any regard to the distinctions of party. This idea was so congenial to the mind of Mr. Fox, that he entered into it with eagerness, and began to bend the whole force of his talents to accomplish this object. The effects of his eloquence were soon visible in the House of Commons, and the ministry began to droop, while still backed by a large majority. Mr. Pitt seemed to stand more on his own basis. He indeed attacked ministers, but he attacked them on such grounds as the old opposition could not coincide with. Yet he seems at length to have been concerned, that his efforts were likely to prove ineffectual; and that the talents of Fox and the Grenvilles were necessary to enable him to carry his point. Accordingly, he also began to declaim on the necessity of a union of the great talents of the nation; and, in the two great minorities which appeared against ministers, Mr. Pitt loudly seconded the motion of Mr. Fox, and Mr. Fox as ardently supported the ideas of Mr. Pitt. The ministry now found themselves unequal to contend against such a host of assailants; new motions were announced by the opposition, and ministers procured their delay, on the ground that they would embarrass certain arrangements which were going forward. These arrangements evidently referred to a new administration. In a few days it was known, that Mr. Pitt had been applied to by his Majesty to form a ministry, and that he had included in his list both Mr. Fox and Lord Grenville, as well as the friends of these leaders. In two days, however, it was reported, that Mr. Fox's exclusion from Administration had been determined on by the highest authority; and that Mr. Pitt was required to form a ministry as he pleased, with the exclusion of this single individual. Mr. Pitt did not long leave the public mind to lose itself in conjectures about the course which he should pursue; for, after some ineffectual representations, he consented to the exclusion of Mr. Fox. On learning that



his Majesty's opinion was so decidedly against him, Mr. Fox earnestly requested, both of the old and new opposition, that they would accept of any situation in which they might render service to their country, and consider his exclusion as a matter which ought in no degree to influence their conduct. The answer to this request was the same from all parties. The friends of Mr. Fox unanimously determined to accept of no place while he was excluded; Lord Grenville, Mr. Windham, and their friends, adopted a similar resolution. The new administration, therefore, consists of such men, as, under existing circumstances, it was possible to procure. Mr. Pitt resumes his office: Lord Melville has been appointed to the Admiralty; Lord Hawkesbury is transferred from the Foreign to the Home Department; Lord Harrowby (formerly Dudley Ryder) has the Foreign Affairs; Lord Camden is Secretary for the Colonial and War Departments; Lord Dartmouth to be Lord Chamberlain; and Lord G. Thynne, Comptroller of the Household. The other arrangements have not yet been finally determined on.

On the 3d of May, previously to the dissolution of the late administration, the thanks of both Houses of Parliament were voted to the Marquis Wellesley, and to the officers and Privates of the British army in India, for the late brilliant successes which they have achieved.

A most severe loss has been sustained by our West India trade. A large fleet of West India merchantmen, under convoy of the *Apollo* and *Carysfort* frigates, were overtaken by violent gales off the coast of Portugal; and a strong current setting in to the eastward, were carried imperceptibly a hundred miles at least out of their course. The *Apollo*, which led the fleet, having therefore shaped her course to clear Cape Verd on a false reckoning, went on shore on the morning of the 2d of April, and was followed by seven and thirty vessels of the convoy. The *Carysfort*, and the remainder fortunately stood off in time to save themselves. Accounts have not yet been received what number of the crews have been lost; but it is concluded, that all the vessels which went on shore were beaten to pieces by the high surf. The ships lost belonged almost exclusively to Glasgow and Liverpool.

FRANCE.—The whole attention of the continent has, for some time past been occupied by the intended assumption of an imperial diadem by Bonaparte. This act, with only one dissentient voice, (that of Cornot) has been decided on by the respective public bodies of France. The coronation robes have been embroidered at Lyons, and, with their diamonds, are estimated at 2,000,000 of livres; gold and silver medals, to the amount of 10,000,000 of livres, report says, are already struck at the mint, and are to be distributed on the coronation day, in all the armies, as well as among the people in all the cities and towns. The coronation carriage has long been made at Brussels, under a pretence that it was intended as a present to the Emperor of Russia. The coronation is to be performed by the Cardinal Archbishop of Paris and the Pope's Nuncio, Cardinal Caprara, assisted by three other revolutionary cardinals, and twelve revolutionary archbishops and bishops; the Pope, on account of his age and infirmities, having been excused a journey to France, where his Nuncio has full power to assist on his part, and give his blessing. Several circumstances have occurred, which render it extremely probable that the intended invasion of England is *postponed sine die*.

RUSSIA.—The Cabinet of Russia seems at length disposed to take some active part in the present state of affairs. As soon as the account of the Duc d'Enghien's murder was known at St. Petersburg, dispatches were sent to M. d'Oubril, the Russian Chargé d'Affaires at Paris, commanding him to present a strong remonstrance to the French government. He presented it in deep mourning; and, that nothing might be wanting to mark the feelings entertained by his Court, he informed M. Talleyrand, at the same time that he delivered the remonstrance; that the mourning which he wore was for the Duc d'Enghien. A more decisive expression, however, of the sentiments of the Court of St. Petersburg has been displayed in an official note, presented

by the Russian minister to the Diet of Ratisbon. In that note, couched in terms of equal feeling and firmness, the Emperor enters his solemn protest against the violation committed upon the territories of the Elector of Baden; evinces his astonishment at the infringement of the law of nations by a Power which had, in concert with him, undertaken the mediation of the peace of Germany, and calls upon the Diet and the Emperor of Germany, to unite their efforts and remonstrances with his, in order to make the French Government consent to all such measures of redress as are due to their compromised dignity. From these circumstances, it does not seem too much to presume, that the Emperor of Russia will no longer remain an idle spectator of the dreadful scenes of blood and ambition now acting on the continent.

SWEDEN.—The conduct of Sweden has not been less honourable and dignified than that of Russia. The reply of the Swedish ambassador to the circular note of Talleyrand, respecting the sham conspiracy in which Mr. Drake, the British Envoy at Munich, was implicated, was the only one which did not appear in the *Moniteur*. It was too spirited, honourable, and independent, to be admitted into that foul vehicle of calumny. The Swedish Court, as well as that of Russia, has gone into mourning for the late unfortunate Duc d'Enghien; and there is every reason to suppose, that this Power would willingly place itself in opposition to the infamous proceedings of the French Government.

EGYPT.—The Beys, it appears, have been quarrelling among themselves and with the Albanians, their former allies. Elphi Bey has been compelled to fly into Upper Egypt, and most of the other Beys have, in a battle with the Albanians, been cut to pieces, and their power nearly annihilated. The Albanians have returned to their allegiance to the Porte. The report which has been in circulation of our having landed a number of troops in Egypt, does not appear to be true.

## Agriculture.

### *Jerusalem Wheat.*

AT the last meeting of the Farming Society in Ireland, his Excellency the Lord Lieutenant, on hearing the present state and prospects of the vegetation of this superior species of wheat, pronounced the discovery an object of high national utility. The experienced properties of the grain are an extraordinary vegetation from 30 to 45 stems, from each seed sown in dibbles of ten inches square, each stem containing from 140 to 160 large round grains, with a pellucid skin of the brightest nature, and a promise of the finest flower. Each stem, 7 feet in length, with a mealy pulp, sufficient to render the whole mass of straw, when cut, an excellent food for cattle of all denominations, but particularly a most provident substitute for oats with road and draft horses.

### *Fecundity.*

An ewe belonging to William Ross, Netherhouse, Dunlop, Ayrshire, has yeaned 25 lambs in seven years, viz. one the first year, two the second year, four each year, for three succeeding years, and five each for the last two years.

PREMIUMS to be given,

*By the Highland Society of Scotland,*

For encouraging Improvements in Agriculture, and meliorating the breed of Black Cattle, &c. in the year 1804.

CLASS I.—*Improvement of barren Land in the County of Argyle, and the Island of Aaran.*

To eight tenants, viz. one in each of the eight following districts, of Islay, Argyle, Lorn, Mull, Ardnamurchan, Kintyre, Cowal, and the Island of

Spade, by an approved potatoe, or other green crops, the greatest portion of land not hitherto in culture, and not less than two Scots acres, in the year 1804.—*Eight pounds sterling.*

To the tenant in each of the said eight districts of Argyleshire, and the island of Aaran, who shall, in the year 1804, improve, by the plough or spade, as aforesaid, the next greatest proportion of land not hitherto in culture.—*Four Pounds sterling.*

Lenks on the sea shore to be excepted.

N. B. The certificates as to the above premiums offered for bringing land into tillage by means of potatoes or other green crops, must be subscribed by two members of the Society, or by one member, along with a justice of the peace, or the minister of the parish, and must specify the condition of the ground previous to the improvement, the mode of cultivation, extent of the ground improved, with the quality of the crop, and transmitted to the deputy secretary of this Society, on or before the 1st December next.

### CLASS II.—*Premiums for improving the Breed of Black Cattle in the Highlands or Upper Districts of the Counties of Aberdeen, Banff, and Mearns.*

The stations, times, and judges of the competition to be as follows:

For the highland or upper districts of Bampfshire and contiguous parts of Aberdeenshire, at Charles Fair of Huntley.

The following members of the Society are hereby appointed judges for the Huntley Competition, viz.

Most Noble the Marquis of Huntley  
Right Hon. the Earl of Errol  
the Earl of Fife

Hon. Gen. William Gordon, of Fivie  
Sir George Abercrombie, of Birkenbog, Bart.

Sir John Gordon of Park, Bart.

Colonel McDowall Grant of Arndilly  
Major Gordon, of Hallhead

Major Turner, of Turner Hall

Mr. Gordon, of Letterfourie

— Leslie, of Basquhain

— Morison, of Bognie

— Stewart, of Auchluncart

— Fraser, of Williamston

— Brown, of Linkwood

— Grant Toinbreckachie

Captain Gordon Minmore.

And three to be a quorum.

The Marquis of Huntley, or in his absence, Arndilly, to be convener.

For the best Bull, from two to seven years old, the property or in possession of any person in said highland parts of Bampfshire, and contiguous parts of Aberdeenshire, kept on his farm or town, from the 1st day of April to the day of competition, at Huntley, where the Bull is to be exhibited. *Twelve guineas*, or a piece of plate of that value, with a suitable inscription.

For the second best Bull belonging to, or in the possession of any person within said lands kept, and to be exhibited at Huntley competition as aforesaid *EIGHT GUINEAS*.

For the 3d best Bull kept, and to be exhibited as aforesaid, *four guineas*.

The station and time of competition for the Highland districts of Aberdeenshire and Mearns, to be at Battle-Fair, Keircardine O'Neil, competition viz.

Right Hon. the Earl of Aboyne

Sir Wm. Forbes, of Craigievar, Bart.

Sir John Steward, of Fettercairn

Mr. Burnet, Sheriff of Mearns

Mr. Russell, of Blackhall

Mr. Douglas, of Tillwhillie

Mr. Farquharson, of Houghton

Mr. Farquharson of Monaltry

Mr. Farquharson, of Breda

Mr. Forbes Leith, of Whitehaugh

Mr. Forbes, of New

Mr. G. Forbes, residing at New

Mr. Gordon of Abergeldie

Mr. Mansfield, of Nidman

Captain Mc'Donald, of Gardensdale

Mr. Forbes, of Invernan

Mr. William Burnet, of Memhodde

John Douglas, Esq. of Tilwhillie

For the best bull from two to seven years old, the property of, or in possession of any persons in the highland parts of Aberdeen, Mearns, &c. kept on his farm or town from the 2d day of April, to the day of competition at Kencardine O'Neil, where the bull is to be exhibited.—*Twelve guineas*, or a piece of place of that value, with a suitable inscription.

For the 2d best bull belonging to us in the possession of any person within the bounds last mentioned, kept and to be exhibited at Kencardine O'Neil, as aforesaid.—*Eight guineas*.

For the 3d best bull kept, and to be shown at Kencardine O'Neil competition.—*Six guineas*.

#### RULES OF COMPETITION.

Applying to both the Huntley and Kencardine O'Neil competitors.

The conveners and other members of the committee, as well as the competitors for the shew, are requested to attend to the following orders and rules of competition.

1st. It is left to the convener to fix on the boundaries of their respective districts, and also which is to be considered the upper or highland districts of these counties.

2d. The convener of each committee to give timely notice in writing to the other judges of the district, of the day of competition, and to give proper directions that the same be intimated to the breeders of their respective parishes, by a written paper on the church doors, at least two successive Sundays prior to the day of competition.

A bull which may have gained the *first prize*, shall not be allowed to complete the year in the same district, but a bull which may have gained a second or third premium, may be offered this year, either in his own or a neighbouring district.

In order to entitle the competitors to their respective premiums, regular certificates of the bull approved, subscribed by all the judges who attend the competition, to be transmitted to the deputed secretary of this Society, on or before the 1st day of December next, at farthest, and which certificate must bear the age of the bulls, length of time they have been in the possession of the competitors, the day of competition, the number of bulls produced thereat, and, in general that all the rules of competition fixed by the Society, as above mentioned have been observed.

N. B. This is the last year of these premiums in the above districts.

#### CLASS III.—To Ploughmen for Improvement in Ploughing.

The under mentioned sums will be distributed this season in premiums to ploughmen, in the following districts, viz.

1st. *Ten guineas* in the county of Wigton.

2d. *Ten guineas* in the Stewartry of Kirkcudbright.

3d. *Ten guineas* in Dumfriesshire.

4th. *Ten guineas* in Hyle, Ayrshire.

5th. *Ten guineas* in the upper ward of Lanarkshire.

6th. *Ten guineas* in Hyntyre, Argyleshire.

The whole of the above premiums in the class, to be competed for at such places and times, and in such a manner, as the members of the Society residing in their respective districts shall find most proper. These members are appointed competitors for that purpose.—John Hawthorn, esq. of Castlewigg, and John Maitland, esq. of Freugh, for Wigtonshire.—James Gordon, esq. of Culvennan, for Kirkcudbright.—Colonel Dirom of Mountamaw, or in his absence, William Stewart, Monteith, esq. of Closeburn, and John Jeffray, esq. of Allerbeck, for Dumfriesshire.—William Fullarton, esq. of Roslinount, for Ayrshire.—Colonel Bertram of Kerswell for the upper ward of Lanarkshire.—and Duncan Stewart, esq. chamberlain to the Duke of Argyll, in Kintyre, for that district conveners; with instructions to report to the

Society; it being understood that any ploughman who may have formerly got the highest premium, shall not be allowed to compete.

N. B. The medals given by the Society to ploughmen to be had of Mr. Cunningham, the Society's Medallist.

By order of the Directors,

LEWIS GORDON, Dep. Sec.

### *Farming Society of Ireland.*

The Spring show of fat cattle, sheep, and swine, was held at the repository Stephen's Green, on Tuesday the 17th April. A great concourse of spectators attended: near 2000 tickets were issued, the animals exhibited were far superior to those produced on any former occasion. The mode of classification by age, without reference to weight, had a very happy effect, as the animals in which the greatest number of valuable qualities were combined universally, obtained the prizes, though in general much inferior in size to the competitors. Most of the candidates conformed to the principles laid down by the Society, and we do not remember even to have seen so good specimens of oxen or cows, as the two to which the medals were adjudged. Symmetry, neatness, excellent flesh on the best parts, and lightness of offal, were the distinguishing properties.

The Ox which obtained the medal, was of the Irish long horned breed, selected by Mr. Gaing when young, from a lot of 100, and the smallest, but neatest among them.—His weight was as follows.

	lb.
Head and tongue	41
Liver	16½
Kidnies	2½
Hide	133
Heart and lights	17
Feet	23
Blood	40
Entrails	144
Fat	109

	cwt.	qrs.	lb.
	52	6—4	2 12
Carcass	123½	0	11 0 0

Entire weight 1758 15 2 28

Mr. Filgate's was bred from Sir John Parnell's stock.—Sir Edward Crofton's was of the Galloway polled breed, and much admired. We understand he has brought over a bull and some cows from Lord Galloway.—Mr. Doyne's cow was of Sir John Parnell's breed; she suffered much in the journey, but proved excellent beef. Mr. Grierison's heifer was imported from Mr. Afley, but had never bred.—Her weight viz.

	lb.
Head and tongue	31½
Liver	14
Kidnies and Coekwhite	6
Hide	122
Heart and lights	15
Feet	19
Blood and entrails	168
Fat	110

	cwt.	qrs.	lb.
	48½	—4	1 8½
Carcass	95½	8	2 0
	143½	12	3 8½

Mr. Tandy's cow was bred by Lord Oxmantown, between a long horned bull, and an Holdernefs cow. We do not advise the *cross* to be pursued any further than the first generation.—Mr. Reynell, of Killinan, produced a heifer of the Irish long horned breed, which was an extraordinary instance of early maturity.

The following is the statement of the weight of Mr. Reynell's of Rey-  
nella, Hereford cow, the first of the breed slaughtered here.

	lb.
Head and tongue	33
Liver	11
Kidnies	2½
Hide	98
Heart and lights	15
Feet	16
Blood	38
Entrails	101
Fat	474
	<hr/>
	cwt. qrs. lb.
Carcass	488½ 4 1 12½
	875 7 3 7
	<hr/>
	1363½ 12 0 19½

We are sorry to observe that the competition for sheep rather declined. Mr. Barbazon Morris has for several years paid great attention to his wool, his sheep are deeply crossed with their Leicester, but not thorough bred, they, however, proved excellent mutton.

The public are not reconciled to over fattening, and anxiously look up to the graziers for a greater proportion of flesh. We have often expressed our opinion on this subject. Lord Sligo's South Down sheep were out of condition, and appeared to great disadvantage, though the short woolled sheep have undoubted merit, they have not yet become the fashion in Ireland.

The Swine had uncommon merit.—Mr. Reynell's of Killinans, which obtained the medal, is of the small Chinese breed, white with black spots. Mr. Reynell's, of Reyrella, is bred between Mr. Wynne's Leicester, and Lord Lansdown's black.—Mr. Wynne's, and Mr. Beresford's, are thorough bred Leicester, black and brown mixed with red, with pricked ears. Mr. Wynne's weighed as follows.

	lb.
Carcass	626
Offal	56
Blood	8
	<hr/>
	cwt. qrs. lb.
Total weight	690 6 0 18

The only improvement we venture to suggest in the shows is, that each animal should be weighed alive, and his live weight marked on the label over him. That a few of the best should be slaughtered, their weights detailed and the parts valued and compared, and that the cattle should be arranged, so that they may be viewed in front, as well as behind.

### Ploughing Match.

Seventeen ploughs started for the prizes, in a level field with which Mr. Garnett obligingly accommodated the Society in his demeine at Huntstown.

There were 13 Scots sewing plows, and four Leicester wheel ploughs. Of the former Lord Meath's and Mr. Symes's, which were chain ploughs, imported from Small, of Edinburg, appeared to be drawn with most ease. It is to be regretted that time was at all taken into consideration, as the

ploughmen on that account were induced to hurry, and to cut the furrow still too broad.

Lord Meath's horses were light and active, but his arrows were not sufficiently closed.

Lord Sligo's horses were much admired, possessing strength, action, and fine form, and were excellently trained.

Mr. Symes's spayed heifers, though of a small size, proved truly valuable in the plough, being quick movers, and very powerful.

Mr. Patterson exhibited a plough calculated for the culture of drilled potatoes, which appeared to be a useful implement, and made at a reasonable price.

Mr. Doran produced samples of Jerusalem wheat, which he has sold at the rate of 100 guineas a barrel.

### *Norfolk Agricultural Society.*

The next general meeting of this Society will be held at Swaffham, on Friday the 13th of July, and the previous meeting of the committee will be at the Crown Inn in Fakenham, on Wednesday the 6th of June.

T. W. Cooke, Esq. President.

### *Members of the Committee.*

Mr. J. Repton, Oxmead  
Mr. Salter, Whinberg  
Mr. G. Smith, Creak  
Mr. Purd, Egmere  
Mr. T. Bragge, jun. Lynn  
Mr. J. Loyd, Pentney  
Mr. T. Dawing, Castle Acre

Mr. H. Blyth, Burnham  
Mr. W. M. Hill, Waterden  
Mr. Godfrey, Maffingham  
Mr. Holland, W. Bilney  
Mr. A. Beck, Maffingham  
Mr. W. Seppings, S. Acre

*Searning, May 3d, 1804.*

Sir JOHN PRIEST, Secretary.

### *South Down Agricultural Meeting.*

At a meeting of the select committee of this Society, held at the London Inn, Ivy Bridge, on Friday the 4th of May, 1804.

Richard King, Esq. in the Chair.

Resolved, that the annual meeting of this Society shall be held at the London Inn, Ivy Bridge, on Wednesday the 6th day of June next, precisely at 11 o'clock.

Resolved, that no claimant shall be allowed either of the following premiums, whose stock is not produced on or before 11 o'clock; notice of the arrival of such stock to be given to the president of the Society, on or before the time mentioned.

Resolved, that the following premiums (only) shall be offered to the public for the year 1804, which will be distributed under the usual restrictions.

Resolved, that the thanks of this meeting be given to the President for his attention to the business of the day.

STALLIONS.		£. s. d.	
1. For the best stallion, for getting stock fit for the road or path	_____	3	3 0
2. For the second best ditto, for getting stock for draft	_____	3	3 0
BULLS.			
3. For the best bull, not more than 3 years old	_____	5	5 0
4. For the second best ditto ditto	_____	2	2 0
5. For the best young ditto, under 3 years old	_____	3	3 0
COWS.			
6. For the best breeding cow	_____	5	5 0
7. For the best heifer, between 2 and 3 years old, calculated for breeding	_____	3	3 0

RAMS.		s.	s.	d.
8. For the best ram	.....	5	5	0
9. For the second best ditto	.....	3	3	0
10. For the best hog, or two toothed ditto, bred in this district	.....	5	5	0
11. For the second best ditto	.....	3	3	0

The same sheep, to obtain only one of the above premiums,

## EWES.

12. For the best lot of breeding ewes, not less than 6, having reared-up lambs this season, the property of one person	.....	5	5	0
13. For the best lot of two toothed or hog ewes, not less than six, having been kept since Michaelmas last with the ewe flock of the same age, the property of one person	.....	5	5	0

## FATTED SHEEP.

14. For the best fat wether sheep, not more than two years old last yearling season, to be killed at Mr. Rivers's, at Ivy Bridge, on Tuesday the 5th of June, (the day before the meeting) between the hours of 2 and 7 in the afternoon, regard being had to the live and dead weight, and fed in this district on grass, hay, turnips, potatoes, or any other green, vegetable food only	.....	5	5	0
15. For the second best, ditto ditto	.....	3	3	0

16. For the best fat young wether sheep, not more than one year old, past yearling season, under the same restrictions	.....	2	2	0
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## WOOL.

17. For the best rams fleece, to be shorn on the spot	.....	2	2	0
18. For the second best, ditto ditto	.....	1	1	0

## SHEEP SHEARING.

19. To the best sheep shearer	.....	2	2	0
20. To the second best ditto	.....	1	1	6
21. To the third best ditto	.....	1	1	6
22. To the fourth best ditto	.....	0	10	0

Satisfactory certificates of the ages of all the cattle, and of the food of the fatted sheep, to be given to the President or the Secretary, prior to the exhibition; and all the sheep claiming premiums, are to be produced in their wool, and shorn on the spot.

## GENERAL RESOLUTIONS.

The Society reserves to themselves the power of giving, in all cases, such part only of any premium as the stock or performance shall be judged to deserve, or of withholding the whole, if there be no merit.

RICHARD HAWKINS, Secretary and Treasurer.

Dated, May 7, 1804.

## Dublin Spring Show.

TUESDAY, APRIL 17, 1804.

## Neat Cattle.

## CLASS I.

For the best fat ox, six years old and upwards in Spring, 1803. 10l.  
Morley Saunders, Esq. County of Wicklow, long horned, deficient in merit.

Lord Viscount Clements, County of Kildare, ditto, ditto.

John Fetherston, Esq. County of Westmeath, polled, ditto.

Mr. Thomas Willens, County of Meath, long horned, ditto.

Premium withheld for want of sufficient merit.

2. For the best fat ox, five years old, ditto. 10l.

Thomas Going, Esq. county of Tipperary, long horned.

Right Hon. David Latouche, county of Dublin, short horned, Holderneff.

Wm. Morris, Esq. county of Meath, long horned.

John Fetherston, Esq. deficient in merit.

Ag. Mag. Vol. 10,

3 D



George Plunket, Esq. county of Roscommon, ditto, ditto  
Premium adjudged to Thomas Going, Esq.

3. For the best fat ox, four years old, ditto.—101.

Wm. Filgate, Esq. county of Louth, long horned.

Right Hon. David Latouche, short horned, Holderneff.

Thomas Rothwell, Esq. long horned, deficient in merit.

Premium adjudged to Wm. Filgate, Esq.

4. For the best fat ox, three years old, ditto.—101.

Hon. Sir Edward Crofton, Bart. county of Roscommon, polled.

Brab. Morris, Esq. county of Meath, long horned.

— Walth, Esq. county of Dublin, long horned, deficient in merit.

Premium adjudged to the Hon. Sir Edward Crofton, to qualify.

5. For the best fat cow or heifer, six years old.—101.

Charles P. Doyne, Esq. Queen's County, long horned.

Richard Reywell, Esq. Reynella, County of Westmeath, middle horned  
Hereford.

Sir F. Hopkins, Bart. county of Meath, long horned.

Richard Reynell, Esq. Killiwan, county of Westmeath, ditto.

William Filgate, Esq. ditto.

James Doolan, Esq. King's county, ditto, deficient in merit.

Henry Garnett, Esq. county of Meath, ditto.

Premium adjudged to C. P. Doyne, Esq.

6. For the best fat cow or heifer, five years old, ditto.—101.

G. Grierfow, Esq. county of Dublin, long horned.

John Fetherston, Esq. ditto.

Guth. Lambert, Esq. county of Meath, middle horned, Hereford.

James Doolan, Esq. long horned, deficient in merit.

Premium adjudged to G. Grierfow, Esq.

7. For the best fat cow or heifer, four years old, ditto.—101.

John Tandy, Esq. county of Meath, long horned, cross.

John Fetherston, Esq. county of Meath, long horned.

Morley Saunders, Esq. ditto.

Thomas Rothwell, Esq. ditto, deficient in merit.

Richard Reynell, Esq. Killiman, ditto, ditto.

Premium adjudged to I. Tandy, Esq. to qualify.

8. For the best fat cow or heifer, three years old, ditto.—101.

Richard Reynell, Esq. Killiman, long horned.

John Fetherston, Esq. ditto.

Premium adjudged to Richard Reynell, Esq. Killiman.

9. For the best of the prize oxen.—*The silver medal.*

The medal adjudged to Thomas Going, Esq.

10. For the best of the prize cows or heifers.—*The silver medal.*

The medal adjudged to G. Grierfow, Esq.

### *Sheep, long or combing woolled.*

11. For the pen of five fat weathers, one year old, ditto.—151.

Thomas Going, Esq. New Leicester.

Barry Lawless, Esq. county of Dublin, ditto, to qualify.

Brab. Morris, Esq. ditto.

Premium adjusted to Thomas Young, Esq.

12. For the best pen of five fat weathers, one year old, ditto.—151

No claimant.

### *Short or Clothing Woolled.*

13. For the best pen of five fat weathers, one year old, ditto.—151.

Marquis of Sligo, county of Mayo, Southdown.

Premium withheld for want of sufficient merit.

14. For the best pen of five fat weathers, two years old, ditto.—151.

Marquis of Sligo, Southdown.

- Premium withheld for want of sufficient merit.
15. For the best pen of five native Irish short woolled ewes.  
No claimant.
16. For the best wether exhibited.—*The silver medal.*  
The medal withheld for want of sufficient merit.

## Swine.

17. For the best fat pig, three years old or upwards.—10l.  
No claimant.
18. For the best fat pig, two years old.—10l.  
Richard Reynell, Esq. Reynella.  
Owen Wynne, Esq. county of Sligo.  
Premium adjudged to Richard Reynell, Esq. Reynella.
19. For the best fat pig, two years old.—10l.  
Richard Reynell, Esq. Killiman.  
Rev. Charles Cobbe, Beresford, county of Dublin.  
Premium adjudged to Richard Reynell, Esq. Killiman.
20. For the best fat pig, six months old, but not exceeding one year.—10l.  
No claimant.
21. For the best of the prize swine.—*Silver medal.*  
The prize was adjudged to Rich. Reynell, Esq. Killiman.

## JUDGES.

For Cattle.

John Fitzpatrick, jun. Esq.  
county of Tipperary.

John Browne, Esq. county of Roscommon.

Walker Bowdall, Esq. county of Meath

For Sheep and Swine.

Jas. Lewis, Esq. King's county.

William Matur, Esq. Queen's county.

John Armist Drought, King's county.

## Ploughing Match.—Sowing Ploughs.

22. To the person who shall plough half a rood of land best, and with least force, five inches deep, with one man and two horses, within one hour and an half.—10l.

To ditto, the next best.—5l.

Rev. C. C. Beresford, county of Dublin.  
Mr. John Oswald, county of Dublin.  
John Paterfon, Esq. Queen's county.  
Marquis of Sligo, county of Mayo.  
Earl of Meath, county of Wicklow.  
Chichester Fortescue, Esq. county of Louth.  
John Garnett, Esq. county of Dublin.  
George Grierfon, Esq. county of Dublin.  
Robert Shaw, Esq. county of Dublin.  
John Latouche, Esq. county of Kildare.

First premium adjudged to C. C. Beresford.

Second premium adjudged to Mr. J. Oswald.

23. To ditto, with one man and two oxen or heifers. 10l.  
To ditto, the next best.—5l.

Rev. James Symes, county of Wicklow.

John Garnett, Esq.

First premium adjudged to the Rev. James Symes.

Second premium adjudged to John Garnett, Esq.

## WHEEL PLOUGHS.

24. To the person who shall plough half a rood of land best, and with least force, five inches deep, with one man and two horses, within one hour and an half.—10l.

To ditto, the next best.—5l.

Hon. Sir Edward Crofton, Bart. county of Roscommon.

Richard Reynell, Esq. Reynella, county of Westmeath.

William Saurm, Esq. county of Dublin.

James Nugent, Esq. county of Westmeath.

Robert Shaw, Esq.

First premium adjudged to the Hon. Sir E. Crofton.

Second premium adjudged to Richard Reynell, Esq. Reynella.

25. To ditto, with one man and two oxen or heifers.—10l.

To ditto, the next best.—5l.

No claimant.

26. To the person, having obtained a premium the day before, for the best performance.—*The cup.*

To ditto, the next best.—*The silver medal.*

Rev. C. Cobbe Beresford.

Hon. Sir E. Crofton, Bart.

Mr. John Oswald.

Rev. James Symes.

Richard Reynell, Esq. Reynella.

John Garnett, Esq.

The cup adjudged to the Rev. Charles Cobbe Beresford.

The medal adjudged to the Hon. Sir E. Crofton.

27. To the owner of the best pair of ploughs.—10l.

Premium adjudged to the Marquis of Sligo.

28. To the owner of the best and most active pair of long-horned plough oxen or heifers.—5l.

Premium adjudged to the Rev. James Symes.

29. To ditto, middle-horned ditto.—5l.

No claimant.

30. To ditto, short-horned ditto.—5l.

No claimant.

31. To ditto, the best of the prize oxen or heifers.—5l.

The medal adjudged to the Rev. J. Symes.

The beam of Mr. Fortescue's plough gave way at the commencement of the work.

Mr. Grierson's man worked with a plough which was borrowed in the field, his own having been broken in conveying it to the ground.

Mr. Nugent's and Mr. Shaw's wheel-ploughs each exceeded the time in which the work was required to be executed.

### JUDGES FOR PLOUGHING:

#### FIRST DAY.

Owen Wynne, Esq.	County of Sligo.
Thomas Burgh, Esq.	_____ Dublin.
Mr. Radcliffe,	_____ Roscommon.
Richard Smith, Esq.	_____ Kildare.
Barnet Schew, Esq.	_____ Dublin.

#### SECOND DAY.

John Green, Esq.	County of Dublin.
James Brasington, Esq.	Ditto.
Richard Schew, Esq.	Ditto.

### East Riding of Yorkshire Show of Cattle, Great Driffield.

The Committee for conducting the concerns of the show, consisting of the following gentlemen.

W. H. Quintin, Esq.

Tatton Sykes, Esq.

Rev. Mr. Hildyard

John Grimston, Esq. and

Robert Bowen, Esq.

have adjudged the following premiums to be distributed on Thursday, the 2d day of August next.

For the best sheep of any age, and bred in any part of Eng- land	L.	s.	d.
	10	10	0
For the best shearing sheep, bred in the East Riding of Yorkshire	10	10	0
For the second-best bred ditto, bred as above	6	6	0
For the best aged bull, bred any where, but restricted to reside in the East Riding afterwards	8	8	0
For the best two years old bull, bred in the East Riding, and re- stricted to remain six month there	6	6	0
For the second best ditto, ditto	4	4	0
For the best two years old heifer, bred in the East Riding	5	5	0
For the best yearly heifer, bred as above	5	5	0
For the best boar, to remain six months in the East Riding	5	5	0
For the second best ditto, to remain as above	3	3	0
For ten of the best shearing weathers, bred in the East Riding	10	10	0

## MEMORANDUM.

In any case, where there may not be a competitor, or where the Committee may not think the cattle or sheep shown sufficiently excellent to deserve a premium, they reserve to themselves a right of withholding the whole, or what part of it they may think proper. No sheep will be entitled to a premium that has been fed on any thing but green food. Gentlemen and others who wish to patronize this very useful branch of Agriculture, are requested to forward their subscriptions to Mr. W. Drinkrow, of Great Driffild.

On the show day, (Thursday the 2d) a dinner will be provided in the Hunt Room after the show.

By order.

*Agricultural Society of the Hundred of West Derby,  
Concluded from our last.*

Pr. 5. To the person who shall discover the cheapest and most productive sort of compost for grass land, a silver cup, value five guineas.

Pr. 6. To the person who shall make the best experiment on different native grasses, a silver cup, value five guineas.

Pr. 7. To the person who shall make and report to the Society at the July meeting, the most satisfactory experiment to ascertain the advantages of summer foiling horses, cattle, or hogs, with green food, in stable, houses, sheds, or littered yards, compared with feeding the same in the common manner, a silver cup, value seven guineas.

N. B. The account must specify the number of each foiled, the effect on such stock, the quantity of food eaten, and the land fed, with the quantity of litter used, and the dung, and the value of the dung made.

**CLASS VII.** *For the best crop of Turnips, beans, cabbage, Potatoes, Lucerne and Winter Tares, for a Green Crop, for laying down Land for Pasture, and for having Land in good Condition.*

Pr. 1. To the person who shall raise and continue on the farm, the best crop of drilled turnips in every respect, to be thoroughly cleaned from weeds, equally thinned and well hoed, at least twice; the quantity not being less than four acres, a silver cup value five guineas.

Pr. 2. To the person who shall raise the best crop of cabbages in every respect, planted in rows or ridges, and the quantity not being less than two acres, a silver cup, value 5 guineas.

Pr. 3. To the person who shall raise the greatest quantity of potatoes of the best quality, from the same land in the same year, not being less than two acres, a silver cup, value five guineas.

Pr. 4. To the person who shall raise the best crop of drilled beans, weeded with the hand, and hoed twice, not being less than four acres, a silver cup, value five guineas.

Pr. 5. To the person who shall produce the best crop of lucerne, not being less than 1 acre, a silver cup, value five guineas.

Pr. 6. To the person who shall produce and consume the best green crop in quantity proportioned to the size of his farm, a silver cup, value five guineas.

Pr. 7. To the person who shall raise the best crop of winter tares, which shall serve preparatory to a summer crop, and not being less than three acres, a silver cup, value five guineas.

Pr. 8. To the person who shall lay down the greatest quantity of land, not being less than twelve acres for pasture in the best manner, and cleaned from weeds, and sowed with white clover or grass seeds, a silver cup, value five guineas.

Pr. 9. To the person occupying a farm, not less than eighty acres, who shall have the same in the best cultivation and order, a silver cup, value seven guineas.

Pr. 10. To the person occupying a farm, not less than forty acres, in the foregoing order, a silver cup, value five guineas.

CLASS VIII. Omitted.

### CLASS IX. *For a Shew of Bulls, Heifers, Stallions, and Boars.*

Pr. 1. To the person residing within the hundred, who shall shew, at the July meeting, the best long horned bull, not less than three years old, a silver cup, or seven guineas.

Pr. 2. To the person who shall shew the best long horned heifer, as in the foregoing, a silver cup, or five guineas.

Pr. 3. To the person who shall produce the best stallion, for the purpose of husbandry, seven guineas.

Pr. 4. To the person who shall shew as aforesaid, the best boar, two guineas.

### CLASS X. *For erecting Cottages, for bringing up Families without Parochial Relief, and for Length of Service in Husbandry.*

Pr. 1. To the person who shall erect the greatest number of labourers cottages, not having less than two bed-chambers upon the best construction, a silver cup, value seven guineas.

Pr. 2. To the labourer in husbandry, renting under 10l. per annum, by whom the greatest number of legitimate children shall have been brought up without parochial relief, ten guineas.

Pr. 3. To the labourer in husbandry, as in the preceding premium, who shall have brought up the second greatest number of legitimate children so brought up, six guineas.

Pr. 3. To the labourer, as in the preceding premium, who shall have brought up the third greatest number, four guineas.

Pr. 5. To the male servant in husbandry, who has the most meritoriously served the longest time in one place, five guineas.

Pr. 6. To the male servant, as in the preceding premium, who has served the second largest time, three guineas.

Pr. 7. To the female servant in husbandry, who has the most meritoriously served the longest time in one place, five guineas.

Pr. 8. To the female servant, as in the preceding premium, who has served the second longest time, three guineas.

N. B. All the foregoing quantities are to be measured according to the statute measure; and not including hedges, pits, &c. but are to be laid actually improved, or bearing crop.

Whenever the claim of owners and tenants appear to have equal merit, the tenants will have the preference.

Claims for premiums, must be sent in writing to the Secretary as early as possible, and before the 1st of June next.

The premiums will be adjudged in July.

6th April, 1804.

WILLIAM STANISTREET, Secretary.

*Howden Agricultural Society, Concluded from our last.*

### Ploughing Match.

Friday April, 20.

#### SWING PLOUGHS.

22. To the person who shall plough half a rood of land best, and with least force, five inches deep, with one man and two horses within one hour and one half

To ditto, the next best

23. To ditto, with one man and two oxen, or heifers

To ditto, the next best

£10

5

10

5

#### WHEEL PLOUGHS.

24. To the person who shall plough half a rood of land best, and with least force, five inches deep, with one man and two horses, within one hour and an half

To ditto, the next best

25. To ditto, with one man and two oxen, or heifers

To ditto, the next best

10

5

10

5

Saturday, April 21st.

26. To the person having obtained a premium the day before, for the best performance. The Cup.

To ditto, the next best. The Silver medal.

27. To the owner of the best pair of plough horses

10

28. To the owner of the best and most active pair of long horned plough oxen, or heifers

29. To middle horned, ditto

30. To ditto, short horned, or polled, ditto

31. To ditto, the best prize oxen. The silver medal.

The ploughmen will be rewarded in proportion to their merit.

#### CONDITIONS.

1. The ploughs must be in the field at nine o'clock in the morning, on Friday, the 20th of April, in order that the ground may be assigned for the several candidates by lot, and they shall start each day by ring of bell, precisely at twelve o'clock.

2. Due notice will be given of the place where the ploughing match will be held.

3. Claimants will be allowed one British shilling per mile, between their respective farms and Dublin, coming and returning, to defray the travelling expences of their men and cattle.

#### MACHINES.

32. For best machine to ascertain accurately the resistance of wheel carriages, on different kinds of roads

£10

33. For best machine to ascertain accurately the resistance of ploughs

10

34. For best mode to prevent draft horses from being stripped by the collar

5

35. For best method of curing horses, when stripped by the collar

5

The committee will appoint days of trial, of which notice will be given to the claimants.

*Use of Garlic against Moles.*

Moles are such enemies to the smell of garlic, that in order to get rid of these troublesome guests, it is sufficient to introduce a few heads of garlic into their subterraneous walks. It is likewise employed with success against grubs and snails.

Mr. G. LINDLEY, of Cottons, Norfolk, has succeeded in saving a crop of Swedish turnips from the fly, by sowing radishes with the seed. Upon the first appearance of the plants, they were attacked by the fly, so that the top of the crop seemed inevitable. A drag-rake was drawn over the ground every other day, four or five times; the stirring of the ground contributed to the growth of the turnip, and to disturb the flies, so that it was some hours before they could settle to resume their depredations. The radish was found to be the particular object of their prey, and in many places of several square feet there was not a plant left; while in others, they were much too numerous for the quantity of seed allowed. In those places where the radishes were miffed, the seed was swept clean off; where they were numerous, the turnips were all safe and vigorous.

*Prices of Raw Hides, Hay and Straw, &c. for May, 1804.*

	First Week	2d Week	3d Week	4th Week	5th Week
	s. d.	s. d.	s. d.	s. d.	s. d.
<b>Raw Hides.</b>					
Best Heifers & Steers, pr ft.	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	3 6 to 3 10	3 4 to 3 8
Middling —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	3 2 to 3 4	3 0 to 3 2
Ordinary —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 3 0	0 0 to 2 10
Market Calf —	— 0	—	—	10 6	10 6
Eng. Horse —	— 3 to — 3	— 3 to — 3	— 3 to — 3	14s to 17s	14s to 17s
Sheep Skins —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0
Lamb Skins —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	2 6 to 3 6	2 6 to 4 0
<b>Prices of Hay and Straw.</b>					
St. James's—Hay	4 16 0	4 17 0	4 17 0	4 16 0	4 5 0
Straw —	1 15 6	1 13 6	1 13 0	1 14 6	1 7 0
Whitech.—Hay	4 17 0	4 17 0	4 7 6	4 9 0	4 8 0
Clover —	5 10 0	5 17 6	5 9 0	5 9 0	5 3 6
Straw —	1 11 0	1 12 0	1 11 0	1 7 0	1 7 0
<b>Newbury.</b>					
Wheat —	44s to 60s	43s to 57s	40s to 56s	36s to 57s	31s to 57s
Barley —	24s to 26s	21s to 26s	22s to 26s	23s to 26s	23s to 27s
Oats —	20s to 25s	21s to 26s	24s to 25s	24s to 28s	25s to 27s
Beans —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3
New ditto —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3
Peas —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3
<b>Salisbury.</b>					
Wheat —	52s to 56s	50s to 54s	48s to 54s	48s to 53s	48s to 52s
New ditto —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3
Barley —	24s to 28s	24s to 28s	24s to 28s	24s to 28s	24s to 28s
Beans —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3
Oats —	22s to 26s	24s to 28s	24s to 29s	24s to 28s	24s to 28s
Peas —	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3	— 3 to — 3

**Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for May 1804.**

<b>Price of Hops.</b>		<b>1st Week</b>		<b>2d Week</b>		<b>3d Week</b>		<b>4th Week</b>		<b>5th Week</b>	
Bags.		s.	s.	s.	s.	s.	s.	s.	s.	s.	s.
Kent	—	106 to	116	90 to	112	100 to	114	98 to	112	100 to	120
Suffex	—	98 to	108	84 to	106	100 to	110	98 to	105	100 to	112
Effex	—	100 to	116	84 to	105	100 to	105	96 to	105	100 to	112
Pockets.											
Kent	—	113 to	126	115 to	128	110 to	114	100 to	120	118 to	130
Suffex	—	108 to	118	110 to	120	105 to	108	100 to	110	110 to	120
Farnham	—	120 to	130	120 to	160	120 to	168	160 to	180	160 to	200
<b>Seeds.</b>											
Red Clover per cwt.	—	40 to	84	40 to	84	40 to	84	40 to	84	40 to	84
White Clover, ditto	—	50 to	112	50 to	112	50 to	112	50 to	112	50 to	112
Trefoil, ditto	—	25 to	50	24 to	44	24 to	44	24 to	44	24 to	44
Caraway ditto	—	— to	75	— to	75	— to	75	— to	75	— to	75
Coriander ditto	—	16 to	20	16 to	20	16 to	20	16 to	20	16 to	20
Turnip, (per bushel)	—	22 to	24	22 to	24	22 to	24	22 to	24	22 to	24
White Mustard Seed	—	8 to	9	8 to	9	8 to	9	8 to	10	8 to	10
Brown ditto	—	14 to	16	14 to	16	14 to	16	12 to	16	12 to	16
Canary Seed	—	6 to	7	6 to	7	6 to	7	7 to	8	7 to	8
Rape Seed, (per last)	—										
<b>Meat at Smithfield,</b>		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
To sink the offal, p. ft. 8lb.	—	4 4	to 5 8	4 4	to 6 0	5 0	to 6 4	4 6	to 6 0	5 0	to 6 0
Beef	—	5 0	to 5 8	5 0	to 6 0	5 4	to 6 4	5 0	to 6 0	5 0	to 5 6
Mutton	—	4 8	to 6 0	4 8	to 6 4	4 5	to 6 6	5 0	to 6 0	4 8	to 6 0
Veal	—	3 4	to 4 4	3 0	to 4 0	3 8	to 4 8	3 8	to 4 4	3 8	to 4 8
Pork	—	6 0	to 8 0	6 0	to 8 4	7 0	to 8 8	6 6	to 8 0	6 0	to 8 0
Lamb	—										
Head of Cattle—Beasts about	—	1,500		1,800		1,600		1,700		1,600	
Sheep	—	7,000		8,500		7,000		6,000		12,000	
<b>Price of Leather.</b>		d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Butts, 50lb. to 56lb. each	—	20½	to 21½	20½	to 22	20½	to 22	21	to 22	21	to 22
Ditto, 50lb. to 65lb. each	—	23	to 24	23	to 23½	23	to 24	23	to 24	23	to 24
Merchants Backs	—	21	to 21½	21	to 22	21	to 22	21	to 21½	21	to 21½
Dressing Hides	—	21	to 23	21	to 22½	20½	to 22	20½	to 21½	20½	to 21½
Fine Coach Hides	—	23	to 25	22½	to 24½	22	to 23½	21½	to 23½	21½	to 23½
Crop Hides for cutting	—	21½	to 23	22	to 23	21½	to 22½	21	to 22	21	to 22
Flat Ordinary	—	20½	to 21	20	to 21½	20	to 21	20	to 21	20	to 21
Calf Skins, 30 to 40lb. p. doz.	—	30	to 34	30	to 35	32	to 36	32	to 36	32	to 36
Ditto, 50lb. to 70lb. do.	—	30	to 33	30	to 34	32	to 34	32	to 35	32	to 35
Ditto, 70lb. to 80lb. do.	—	28	to 30	28	to 30	28	to 30	28	to 31	28	to 31
Sm. Seals (Greenland)	—	48	to 51	48	to 51	48	to 52	48	to 51	48	to 51
Large do.	—	51	to 81	51	to 71	51	to 71	51	to 71	51	to 71
Tanned Horse Hides	—	208	to 358	208	to 358	258	to 358	258	to 358	258	to 358
Goat Skins per doz.	—	—	to —	—	to —	—	to —	—	to —	—	to 38
<b>Price of Tallow.</b>		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
St. James's Market	—	4	2	4	1	4	2½	4	2½	4	2½
Clare Market	—	4	3	4	1½	4	2	4	3	4	3
Whitechapel Market	—	4	1	4	1	4	1½	4	1½	4	1½
Per stone of 8lb. Average	—	4	2	4	1	4	2	4	2½	4	2½
Town Tallow	—	71	0	70	6	71	0	71	6	71	6
Russia ditto (Candles)	—	71	0	70	0	70	0	70	6	70	6
Russia ditto (Soap)	—	69	0	69	0	68	6	68	2	68	6
Melting Stuff	—	57	0	58	0	57	0	57	0	57	0
Ditto rough	—	40	0	40	0	39	0	39	0	39	0
Graves	—	14	0	14	0	14	0	14	0	14	0
Good Dregs	—	11	0	11	0	11	0	11	0	11	0
Yellow Soap	—	80	0	80	0	80	0	80	0	80	0
Mottled ditto	—	88	0	88	0	88	0	88	0	88	0
Curd ditto	—	92	0	92	0	92	0	92	0	92	0
Candles, per dozen,	—	11	6	11	6	11	6	11	6	11	0
Moulds	—	12	6	12	6	12	6	12	6	12	0



LONDON PRICES OF GRAIN for *May, 1804.*MARK-LANE, *Monday, April 30.*

OUR supply of Wheat from the neighbouring Counties on the coast for this day's Market was not great, yet equal to the demand. Fine samples, as usual, obtained ready sale at last week's prices, but the ordinary were dull, though not cheaper. Barley and Malt were rather slack, and sold heavily at last currency.—White Pease are rather dearer, as are the two sorts of Beans.—Rye is lower.—The supply being good, we are in no want of Oats, which sell upon nearly the same terms as last Monday.

*Price of Grain, on board Ship, as under.*

Wheat	30s to 53s	Malt	50s to 56s 6d	Grey Peas	29s to 32s 0d
Fine	54s to 56s 0d	Oats	17s to 22s	Beans, new	30s to 35s
Rye	25s to 28s	Polands ditto	23s to 25s 0d	Old ditto	—s 38s
Barley	20s to 25s 6d	White Peas	30s to 36s 6d	Ticks	26s to 34s

*Monday, May 7.*

Our supply of Wheat for this day's Market has been chiefly from Kent and Essex, and the quantity not large; since this day se'nnight, prices have declined about 1s. per quarter on the fine sorts, and rather more on the ordinary. Barley and Malt are dull, and something lower. White and Grey Pease keep up their price, but Tick Beans are rather cheaper. Oats, and other articles, are without any material alteration. Flour still finds its way into the Mealweighers' returns at 45s. per sack; but we hear of no sales at more than 43s.

Wheat	30s to 52s	Malt	50s to 56s 6d	Grey Peas	28s to 32s 0d
Fine	53s to 55s 0d	Oats	18s to 23s	Beans, new	30s to 35s 0d
Rye	24s to 28s 0d	Polands ditto	24s to 25s 0d	Old ditto	37s 0d
Barley	19s to 24s 6d	White Peas	30s to 36s 0d	Ticks,	26s to 30s 0d

*Monday, May 14.*

Our arrivals of Wheat for this day's market have been very considerable; best samples are one shilling below last week's currency; and the inferior coarse sorts are likewise cheaper, by full two shillings per quarter.—Barley has had rather a brisk sale to-day.—In Pease and Beans, of the various sorts, there has been no essential fluctuation to require notice.—Oats have come up in plenty, and, in consequence of the full supply, may be quoted at one shilling per quarter under last Monday's price.

Wheat	26s to 52s	Malt	51s to 57s 0d	Grey Peas	28s to 32s 0d
Fine	52s to 54s 0d	Oats	17s to 22s	Beans, new	30s to 35s 0d
Rye	24s to 27s 6d	Polands ditto	23s to 24s 0d	Old ditto	38s 0d
Barley	20s to 25s 0d	White Peas	30s to 37s 0d	Ticks	24s to 34s 0d

*Monday, May 21.*

We have had an abundance of Wheat in from the neighbouring counties of Essex, Kent, and Suffolk, but from its being a day of festival, our buyers were not numerous, and the sales remarkably dull, at 1s. and 2s. per quarter lower. Barley and Malt are brisk in sale, and dearer. The various sorts of Pease, of which we have a short supply, maintain their prices.—Horse and Tick Beans remain nearly as last, and without any material alteration. Our supply of Oats has been considerable, good samples of which fetch nearly as much as on last Monday; but the indifferent sorts are cheaper.

Wheat	26s to 50s	Malt	53s to 60s 0d	Grey Peas	27s to 31s 0d
Fine	50s to 53s 0d	Oats	17s to 23s	Beans, new	30s to 34s 0d
Rye	24s to 27s	Polands	24s to 24s 6d	Old ditto	38s 0d
Barley	21s to 26s 0d	White Peas	30s to 36s 0d	Ticks	24s to 33s 0d

*Monday, May 29.*

Our arrivals of Wheat for this day's supply were not great, hence higher prices were asked in the morning, but the meal trade closed heavily at last week's average. Barley and Malt are both getting up, and fine samples of the latter are from 1s. to 2s. per quarter dearer. Grey Pease are scarce, and of course, being wanted, are dearer. Beans are likewise on the rise; but in Pease we have little to note. Oats of good quality are dearer, say 1s. per quarter; the supply rather scanty.

Wheat	26s to 52s	Malt	54s to 61s 0d	Grey Peas	29s to 33s 0d
Fine	52s to 54s 0d	Oats	18s to 23s	Beans, new	30s to 35s 0d
Rye	24s to 27s	Polands	24s to 25s 6d	Old	34s 0d
Barley	21s to 26s 6d	White Peas	30s to 35s	Ticks,	24s to 34s 0d

**AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per boll, of 140 pounds Avôirdupoise:**  
*From the Returns received in the Week, ended MAY 14, 1804.*

**INLAND COUNTIES.**

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	30	11	30	3	24	8	25	4	35	1	34	7		
Surrey	55	10	28	0	25	5	20	8	32	0	34	0		
Hertford	48	3	35	6	23	2	20	8	31	6	32	3		
Bedford	47	5	31	2	21	9	22	3	28	5	35	7		
Huntingdon	45	5			21	2	20	6	27	2	31	11		
Northampton	50	8	30	0	22	6	20	6	30	6				
Rutland	52	0			22	0	22	0	34	0			57	3
Leicester	53	1			25	1	19	2	28	3	30	1	35	4
Nottingham	56	2	30	0	26	10	21	10	36	6				
Derby	59	1			26	3	21	7	38	6			27	10
Stafford	55	4			28	10	23	7	42	7			34	2
Salop	50	0	37	6	27	10	26	7			45	4	63	7
Hereford	46	0	30	4	28	4	27	0	42	5	41	8	60	2
Worcester	46	7			27	6	27	10	36	6	37	8		
Warwick	54	8			29	4	25	1	38	11			42	8
Wilts	49	10			27	0	24	10	39	4	38	0		
Berks	51	7			24	10	25	10	35	2	33	0		
Oxford	50	5			23	9	23	3	33	4	32	0		
Bucks	50	8			23	4	23	2	31	10	34	9		
Brecon	52	3	35	2	29	2	24	0			36	8	38	5
Montgomery	49	1			25	7	23	5					41	6
Radnor	45	5			24	7	24	1					67	10

**Maritime Counties.**

Essex	49	8	25	6	21	11	24	9	30	7	30	0		
Kent	51	10			24	7	25	2	31	10	34	0		
Suffex	53	10			23	6	25	4						
Suffolk	50	4	26	0	21	5	23	6	28	8	26	4		
Cambridge	39	3			20	10	16	7	28	11				
Norfolk	46	10	25	5	20	7	19	8	28	6	31	11		
Lincoln	45	7	24	7	24	3	19	4	31	7				
York	49	11	34	7	25	5	19	10	33	10	64	0	37	10
Durham	50	2			24	0	21	4						
Northumberland	47	1	34	0	22	4	20	6	32	0	32	0	16	0
Cumberland	55	3	39	0	26	2	22	8						
Westmorland	59	3	41	0	26	8	24	0					19	1
Lancaster	56	7					24	1	39	4			19	0
Chester	50	2					23	6					19	4
Flint					30	11	22	8						
Denbigh	57	11			28	2	25	8					40	8
Anglesea					22	0	16	0						
Carnarvon	59	4	42	0	24	8	19	1			72	0	38	2
Merioneth	54	10	48	0	31	4	21	4					34	5
Cardigan	55	3			19	0	15	0						
Pembroke	47	11			28	4	16	10						
Carmarthen	38	6			30	8	16	4						
Glamorgan	53	4			30	0	24	9						
Gloucester	50	0			26	6	28	1	36	4				
Somerſet	52	2			29	4	23	0	38	0				
Monmouth	51	1			29	10								
Devon	55	5			28	0	24	5						
Cornwall	57	2			33	11	23	8						
Dorſet	51	10			27	6	27	9						
Hants	50	8			26	1	25	0	35	11				

# PRICES OF COALS AT THE COAL EXCHANGE, LONDON, For MAY, 18c4.

Names of Coals.	Wed. 2d	Frid. 4	Mon. 7th	Wed. 9th	Frid. 11th	Mon. 14th	Wed. 16th	Frid. 18th	Mon. 21st	Wed. 23d	Mon. 28th
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. h.	s. d.	s. d.	s. d.
Adair's Main	45										
Baker's Main											
Bedford Main											
Benton	45 6				46		43			42 6	
Biddick Main											
Bigg's Main			47	47						46 6	
Bladon Main							46 6				
Blyth											
Boundry	46						45				
Bourn Moor	46			47 6							
Brandling			42 6				39 6				
Bowes Main										42 3	
Byker											
Bedford											
Chous											
Cowpen	42		47 3								
Eden Main		47 3									
Eighton Main											
Flatworth											
Greenwich Moor											45 6
Haraton	47 6				46 6		47			45 6	
Hartley	50 c	46 9	47	46 6							
Heaton Main	50 6			47			46 6			46	
Hebburn Main						50					
Holywell			46 9	46 9	50						
Kenton Main											
Montague Main	49										
Murton											
Murton Moor											
Newbottle											
New Tansfield	46 6										
O'd Ducks											
Primrose											
Pitt's Tansfield M.	46 6		45		47	45 6				44	43 9
Percy	50		47	47			46				45 3
Rectory	40										
Ruffel's Main											
Simpsons Pontop	46 6				40	44 3				43 9	
Sheriff Hill			44 6								
South Moor	50										
Stanley Main											
St. David											45
Team											
Temple	50						46				
Percey											
Tyne Main	44									46	
Ufworth Main	49										46 6
Walbottle Moor	51		42				48			46 3	44 9
Walker	49			48			46 9				
Wall's End			48	46 9							
Willington			46 9								
Windsors Pontop						40	49				
Wy'am Moor											
Wentworth											
Whitefield											
Main Wooler											
Warwick Main											
Warwick											

**ALPHABETICAL LIST OF BANKRUPTCIES and DIVIDENDS announced between the 10th of April and the 10th of May, extracted from the London Gazette.**

**BANKRUPTCIES.**

*The Solicitors' Names are between Parentheses*

**ACKLAM**, William, Beverley, tanner (Lowndes and Lambert, Red Lion square)  
**Arrowsmith**, James, Stockport, baker (Bullivant, Bernard street, Brunswick square)  
**Bell**, William, Southampton street, Covent garden, hosiery (Palmer and Tomlinson, Warwick court, Throgmorton street)  
**Balfour**, James, Russell court, shoemaker (Carpenter and Guy, New Inn)  
**Beattie**, William, St. Paul's Church yard, pocket-book maker (Richardson, Monument yard)  
**Brooks**, William, Bideford, shopkeeper (Pearson, Pump court, Temple)  
**Bradley**, Samuel, Holborn, victualler (Hebden, Inner Temple)  
**Bland**, Francis, Ilkeham, shopkeeper (Browns and Goto-bell, Norfolk street)  
**Brown**, Henry Wilkin, Cannon street, shoe manufacturer (Warrand, Arundel street)  
**Black**, John Henry, Lamb's street, Spitalfields, oil and colourman (Store, Garrick hill)  
**Brain**, Stephen, Fife marsh, Gloucester, coal-miner (Blandford and Sweet, Inner Temple)  
**Buchell**, William, Cannon street, grocer (Lee, South-westark)  
**Bunting**, John, Wapping, victualler (Robinson, Bernersley)  
**Cook**, William, Cannon street road, mariner (Nisid, Great Prekott street)  
**Cooper**, Thomas, Leatherhead, cornchandler (Burt, Gould square, Crutched friars)  
**Coombe**, William, Queen street, warehouseman (Fullen, Fore street)  
**Colett**, Thos. Friday street, warehouseman (Walker, Coleman street)  
**Cannan**, Michael, Little Cheapside, Sun street, cheese-monger (Edmund, Hatton garden)  
**Carrist**, Edward, Louth, Sadler (Dyneley and Sons, Gray's inn)  
**Corbyn**, Thomas, Cheapside, draper (Scott, St. Mildred's court)  
**Coulling**, Thomas, Bristol, cydermerchant (Blandford and Sweet, Inner Temple)  
**Dickson**, Thomas, Manchester, builder (Faulkes, Bury place, Bloombury)  
**Dalton**, Richard, Church street, Kensington, Carpenter (Edwards, Red Lion square)  
**Dobbin**, John, Leeds, merchant (Battye, Chancery lane)  
**Darbyshire**, John, Russell street, Bermondsey, cordwainer (Broad, Union street)  
**Dymoke**, Robert, Tuffel mills, Stratford, Callico printer (Humphreys, Token house yard)  
**Drummy**, Robert, Great George street, Minorities, taylor (Burt, Gould square, Crutched friars)  
**Dodgson**, Joseph, Milbore, horriddealer (Clarkson, Essex street, Strand)  
**Dutton**, John, Catherine court, Tower hill, shipbroker (Wards, Dennetts, and Greaves, Henrietta street)  
**Debreit**, John, Piccadilly, bookbinder (Dawson, Warwick street, Golden square)  
**Elliot**, William, Beverley, tanner (Lowndes and Lambert, Red Lion square)  
**Edwards**, John and George Manvell, Pace Coth, Flint, manufacturers of earthen ware (Howard, Henrietta street)  
**Elli**, Edward, St. George's Crescent, St. George's fields, coachmaker (Cockayne and Taylor, Lyon's inn)  
**Finningley**, Edward, Thorne, miller (Rafter, Kirby street, Hatton garden)  
**Figgins**, Francis, Stockport, upholsterer (Swale, New Botwell court)  
**Field**, John, Watford, miller (Edge, King's Bench walk, Temple)  
**Green**, William, Romford, linen draper (Atkinson, Castle street, Falcon square)  
**Green**, Charles, and Samuel Marland, Heaton, Norris, Lancashire, cotton spinners (Ellis, Currier street)  
**Gwyn**, John, Albury, furniture maker (Bennet and King, Meath's street, Soho)  
**Greetham**, Simon, Bedale, shopkeeper (Dyneley and Sons, Gray's inn)  
**Gover**, John, and James Hardum, Rotherhithe, patent gun carriage makers (Wood, St. Bartholomew's hospital)  
**Glooff**, Benjamin, Reham, beast-jobber (Faulkes, Bury place, Bloombury)  
**Hart**, Thomas, Bristol, merchant (Hill, Meredith, and Robbing, Gray's inn)  
**Hill**, John, Caxton street, warehouseman, trading in the firm of J. Hill and Co. (Macdougall and Hunter, Lincoln's inn New square)  
**Harris**, Robert, Maidstone, woollen draper (Ellex street, Strand)  
**Heawood**, Eliza, Heaton-norris, Manchester, and James Roberts, Stockport, cotton spinners (Bullivant, Bernard street, Brunswick square)  
**Hutchinson**, William, Waken, hosiery, hard-wareman (Sykes and Knowles, Botwell court, Lincoln's inn)

**Hill**, Samuel, Adde street, merchant (Sellers, Crown Office row, Temple)  
**Hewlett**, William, Vile, Southwark, druggist (Vandercom, Ruff lane)  
**Holmden**, Sarah, Seven Oaks, miller (Poole, Sergeant's inn)  
**Hajer**, John, Maidstone, paper maker (Debary and Cope, Paper buildings, Temple)  
**Hartley**, George, Colne, calico manufacturer, Langhorn, Gray's inn  
**Hasfall**, James, Deptford, Smith (Evitt and Rixon, Haydon square)  
**Hutchison**, William, Little East Cheap, merchant (Ward Dennetts, and Greaves, Henrietta street, Covent garden)  
**Hardcastle**, John, Knottingley, mercer (Evans, Thavies inn)  
**Hargrave**, William, Kirton, Rose mafon (Harvey and Robinson, Lincoln's inn)  
**Jones**, Isaac, Wainbury upon Trym, victualler (Kinderley, Long, and Ince, Symond's inn)  
**King**, Jeremiah Marshall, Bristol, dealer (Tarrant and Mose, Chancery lane)  
**Keeble**, Henry Ashby, Peckham, builder (Smith, York buildings, Bermondsey New Road)  
**Kope**, Bateman, New Bond street, wigmaker (Dixon, Naffau street, Soho)  
**Levi**, Henry, Kamigate, dealer (Cockayne and Taylor, Lyon's inn)  
**Louis**, Louis, Oxford street, grocer (Lane, Red Lion square)  
**Leefe**, Clough, Leopard's court, Baldwin's gardens, druggist (Gargun, Angel court, Throgmorton street)  
**Lee**, Paul, South Shields, druggist (Mellin, Madox street)  
**Ludlow**, William, Jun. Andover, wine merchant (Johnson and Gaffell, Gray's inn)  
**Ludlow**, William Arnold, Andover, grocer (Brenskidge, Inner Temple)  
**Mort**, Thomas, and John Broadhurst, Manchester, cotton spinners (Ellis, Guxter street)  
**Miner**, John, Morley, woollapier (Lambert, Hatton garden)  
**Mills**, Mary, Newington causeway, cooper (Bishop, Wood street)  
**Mercelle**, Cuthbert, Kighley, money scrivener and cotton manufacturer, partner with John Horsfall, of Cullingworth, cotton manufacturer, in the firm of Horsfall and Co. (Blunt, old Pay office, Broad street)  
**Natras**, John, St. John's chapel, Durham, inkkeeper, Atkinson, Chancery lane  
**Noble**, James, Kensington gravel pits, brewer (Pratt, Gray's inn square)  
**Nacro**, Thomas, Wapping street, baker (Burt, Gould square, Crutched friars)  
**Pendleton**, Robert, Lancaster, merchant, late of the Island of Trinidad, and partner with John Benson and Niven Moore, of Lancaster and Joseph Wilkieson of the Island of Trinidad (Mason and Wilson, Lancaster)  
**Privatt**, Richard, Leicester place, auctioneer (Saikeld, Hatton garden)  
**Parkinson**, Robert, Deal, druggist (Holmes, mark lane)  
**Pitt**, William, Bolton, backing manufacturer (Aldoe and Exley, Furnival's inn)  
**Rankin**, Richard, Lefwick, and William Ohell, Liverpool, merchants (Huxley, Temple)  
**Riding**, Grace, and William Riding, Andover, linen drapers (Kinderley, Long, and Ince, Symond's inn)  
**Robinson**, James, Liverpool, overhitcher (Kearley, Hare court, Temple)  
**Reynolds**, Charles, Norwich, woollen draper (Steward, Norwich)  
**Snowden**, John, Plymouth, draper (E. and T. Dawes, Angel court, Throgmorton street)  
**Simon**, Louis, Great Bath street, Cold Bath fields, watch manufacturer (Rullen, Grows court, Aldergate street)  
**Sapbach**, William, Northwich, shopkeeper (Cheffins and Walker, Manchester)  
**Scott**, John, and Charles Stewart Riffett, Liverpool, liquor merchants (Lace and Hall, Liverpool)  
**Sanderson**, Robert, Pangrave place, money scrivener (Constable, Symond's inn)  
**Thompson**, William, Birmingham, Roemafon (Johnson, Temple)  
**Tucker**, Ewens, Debford, Tallowchandler (Dugleby, Old City chambers)  
**Todd**, George, King's road, Sloane square, builder (Richardson, New Inn)  
**Twycross**, Robert Harcourt, Brook street, Jeweller (Moxney, Pulteney street, Golden square)  
**Varley**, Samuel, Well Burton, Bedale, hosiery (Barretts, White court, Gray's inn)  
**Walford**, Richard, Andover, porter brewer (Battye, Chancery lane)

Watmore,

Watmore, William, New Windsor, innkeeper [Hurd, King's Bench walk, Temple]  
Walker, George, Braintree, shopkeeper [Luxmore, Red Lion Square]  
Willett, Wilmer Mackett, Rutherford hall, Bingley, cotton spinner [Ellis, Currier Street]  
Wootton, Charles, Bath, milliner [Cutwell, Bath]  
Witherington, Charles, Rois, vintner [James, Gray's Inn Square]  
White, Joseph Smith, Wickham, miller [Tyndal and Francis, Guildhall]

## DIVIDENDS ANNOUNCED.

ALEXANDER, John, South Lambeth, coal merchant, May 26.  
Alderton, Thomas, Middleton, cornfactor, June 6.  
Batterley, John Ralph, and John Jacob Zorinda, Devonshire Square, merchants, May 29.  
Beverington, Timothy, Worcester, dealer, May 22 final.  
Benfon, James, Greville Street, painter, June 22.  
Barker, Thomas, Brickwall, Hatfield, victualler, May 26.  
Beverington, Samuel, Gracechurch Street, merchant, June 5 final.  
Bryan, Thomas, Maverfordwell, shopkeeper, May 28.  
Brydon, John, Charing cross, printseller, June 5 final.  
Burke, John French, Cannon Street, shipowner, May 26.  
Booth, Thomas, and Thomas Ireland Blakeley, cyerst, May 30, and separate estate of Booth, same day.  
Burcham, Charles, Bowmarket, butcher, May 28.  
Bridow, Charles, Newgate Street, linen-draper, June 13.  
Burke, Jos. and Edward Newton, Thavies inn, merchants, June 18.  
Burton, Edmund, Daventry, money scrivener, June 7.  
Bayley, William, Wakefield, ironmonger, May 28 final.  
Bichnell, Samuel, fen, and Samuel Bichnell, jun. Southwark, soapboilers, June 23.  
Cotter, Benjamin, Wotton under Edge, clothier, May 16 final.  
Cowley, Henry, and Joseph Taylor, Galinburgh, merchants, May 13.  
Carling, Benjamin, Stephen, Portland place, Clapham road, houseman, May 26.  
Colombine, Francis, David Colombine, David Colombine, jun. and Peter Colombine, jun. merchants, joint estate, June 15, and separate estate of each, June 16.  
Cripwell, Thomas, Ruedington, hatter, May 18.  
Crock, Charles Thomas, Weybridge, timber dealer, May 19.  
Collingdon, John, Plough court, Lombard Street, merchant, May 22.  
Collings, Henry, and Richard Ireland Gifford, St. Philip and Jew's, Gloucester, Seiners, separate estate of Collings, separate estate of Gifford, and joint estate, all on June 20.  
Cowen, George, Hoxton town, oil and colourman, June 1.  
Dixon, Thomas, Godalming, timber merchant, June 5.  
Drake, William, Barchiff hatters, drapers, June 9.  
Dunne, Charles, Durdwiche Street, furrier, May 19 final.  
Danson, George, and Abraham Simon Doncher Cavell, Lancaster, brokers, June 4.  
Dawes, George, Road lane, brandy merchant, May 19.  
Emerton, James, bitton, brass, and spelter maker, June 2.  
Fletcher, Solomon, Manchester, linen-draper, May 18.  
Farquhar, John, late of Cavendish court, now of Winchester Street, merchant, June 9 final.  
Fawcett, Thomas, Chitwell Street, brandy merchant, June 5.  
Fower, William, Heywood, innkeeper, May 30.  
Field, Benjamin, Union Street, Bishopgate, upholsterer, June 12 final.  
Forbes, Francis, Blackman Street, druggist, June 30.  
Gardener, Samuel John, Pitt Street, corn dealer, June 9.  
Gowan, George, Great Ormond Street, merchant, [partner with Thomas Gowan and Matthew Coats Horley, both of Calcutta] June 19 final.  
George, Benjamin, Pope's Head alley, Needy and Fishhook maker, June 2 final.  
Gruniefon, Charles, Abchurch lane, merchant, June 19.  
Gwynne, David, Fifth Street, tailor, June 5.  
Hobbs, William, of Gainsburgh, and Sir Joseph Edsall, of Marden Ash, Knight, bankers, separate estate of each, May 19.  
Hancox, Edward, Dudley, banker, May 25, 26, 28, 29.  
Hook, Joseph, Bermunciey Street, leather greiner, May 18.  
Howards, Bradford, Wills, carpenter, May 22 final.  
Hook, James, and William Turner, Bridge foot, Westminster, coal merchants, May 26 final.  
Harker, Daniel Winchcomb, soapboiler, May 28.  
Mayward, Walter, New Sarum, clothier, May 30.  
Hail, Charles, Eileston, horse jobber, June 13 final.  
Hatterley, Richard, Hockley, grocer, June 6.  
Hamilton, James, and William Tullington, Finch lane, merchants, June 9.  
Johnson, John, and Joseph Cullingworth, Leeds, joiners, May 24.  
Jay, John, Norwich, coal merchant, May 2.  
Jovy, Richard, St. Clement, Oxford, upholster, June 11.  
Key, William, Duke Street, Aldgate, man's mercer, May 12 final.  
Kerhaw, John, Wakefield, druggist, May 28 final.

Keyson, Joseph, Wakefield, linen-draper, June 18 final.  
Lake, William, [partner with John Liff] Bishopgate Street, merchant, May 16.  
Leeman, Joseph, of Peterborough, linen-draper, June 5.  
Littler, Joseph, St. Clement's Dance, jeweller, July 2.  
Lonsdale, Nathaniel, and Thomas Thompson, Bedford Street, Covent garden, woodlindraper, June 9.  
Moffey, James, and James Ross, Birmingham, factors, May 28, and separate estate of Moffey, same day.  
Macklin, Thomas, Rumbold, innkeeper, May 28 final.  
Moore, Richard, Hulseford, linen-draper, May 28.  
Medley, Edward, Parliament Street, money scrivener, May 26.  
Manfou, Thos. Token-house yard, merchant, May 26 final.  
McHenry, Bernard, Stratford upon Avon, mercer, May 28.  
Medford, Macall, Finsbury Square, merchant [partner with John Liff, Jun. of Philadelphia] May 26.  
Melle, Stanislas Grandelos, Finsbury place, merchant [trading in the firm of Grandelos, Melle, Fils, and Co. June 5].  
Morison, Alex. Walbrook, merchant, June 2.  
Nanfas, Thomas, Manchester, warehouseman, May 15.  
Nimmo, Henry, Bristol, merchant, May 19.  
Noble, Joseph, of Southwark, hatter, June 5 final.  
Nixon, Janet, Princes Street, Hanover Square, ironmonger, June 2.  
Nicholls, Walter, Bristol, soapboiler, June 9.  
Owens, John, Cardiff, Tanager, May 16.  
Offner, John Paul, Kingland road, brewer, June 5.  
Occorham, Arnold, Fenchurch Street, merchant, June 19.  
Ormes, Edward, Southwark, chieftain, June 22.  
Fowell, William, William Sutton, and Michael Ward, Leeds, merchants, May 14 final.  
Peach, Robert, Wakefield, woodlindraper, May 10.  
Parker, Joseph, Glamford Bridge, mather, May 18.  
Parker, Richard, Little Argyll Street, Edinburgh, and potatoe merchant.  
Perkins, John, Huntington, banker, May 23.  
Plovers, John, Leeds, merchant, May 23.  
Pevise, John, Lower Thames Street, Fishmonger, June 3.  
Pyne, Thomas, Southwark, victualler, May 3.  
Powell, William, Shepton Mallet, innholder, June 4 final.  
Parflee, John, Holt, bookbinder, May 31 final.  
Pearson, William, Sunderland, printer, June 12.  
Pratt, Peter, Hart Street, Bloombury, glass seller, June 12.  
Rothwell, John, Nottingham, hatter, May 18.  
Ridgford, John, Beaman, Marshall Hall, and William Rutherford of Crowderon hall, May 21.  
Robinson, James, Crosby Square, merchant, June 19.  
Richings, Stephen and Somerset Bliching, Oxford, gloves, June 5.  
Reeve, Edward, Leeds, linen-draper, June 2 final.  
Smirhwaite, Geo. Bath lane, merchant, May 12 final.  
Sharples, Robert, Anderton, shopkeeper, May 10.  
Simmonds, John, Canterbury, linen-draper, June 5 final.  
Starcy, Thomas, Newgate Street, wholesale linen-draper, June 5.  
Sheep, Samuel, Halfworch, cornmerchant, June 11.  
Seiffard, Samuel, Marlborough Street, victualler, June 5.  
Sommerwall, James, Liverpool, merchant, June 9.  
Smith, Peter, Farnhill, Malloomaker, June 11 final.  
Taylor, John, Manchester, merchant, May 18.  
Taylor, Edward, Blackburn, linen-draper, June 7.  
Tuttle, Thos. Perry, Holborn hill, linen-draper, May 26.  
Tomlins, William, Bridge road, Lambeth, coachmaker, May 29.  
Taylor, Thomas, Birmingham, draper, June 1 final.  
Thompson, Francis, Bow lane, warehouseman, May 5 and June 5.  
Travis, Joseph, and Peter Nevill, Bolton-le-moors, muffin manufacturers, June 1.  
Towes, William, Gracechurch Street, Rationer, June 5 final.  
Turner, Samuel, John, Laytonstone, farmer, June 22.  
Towend, John, Ludgate hill, laceman, June 9.  
Waring, Samuel, Perihire, miller, May 22 final.  
Ward, Joseph, Brentwood, publican, May 18.  
Waucock, Charles, and John Henry Luterlich, Marklane, merchants, June 5.  
Whitaker, John, and James Pitt, Birmingham, coachmakers, May 31.  
Warren, George, Coventry Street, upholster, May 18.  
White, Thomas, White yard, Rosemary lane, cooper, June 2.  
Wilson, Richard, Broad Street, June 5.  
Waley, Thomas, Liverpool, merchant, June 5.  
Windett, James, Norwich, grocer, June 14.  
Wilde, James, John Watts, and John Roddy, Upper Thames Street, sugar refiners, June 9, separate estate of Watts.  
We, John, Somerset place, Bath, plasterer, June 2.  
Wagner, Owen, Marlborough, stocking manufacturer, June 5 final.  
Weismacot, Richard, Mount Street, sculptor, June 9.  
Walton, James, Abdon under line, cotton spinner, June 15.  
White, Thomas, Making place, Halifax, merchant, June 11.  
Young, James, Southampton, linen-draper, June 5.

A TABLE of the Prices of STOCKS in May 1804.

( 391 )

18 4 May 1	Bank Stock.	13 per Ct. Red.	3 per Ct. Confols.	4 per Ct. Confols.	5 per Ct. Navy.	5 per Ct. Loyalty.	Long Ann.	Short Ann.	Imp. per Ct.	Imp. Ann.	Irish 5 pr. Cent	Omnium	India Stock.	English Tickets.	Confols for Account.
2	151	55½	56½	72½	91½	95½	16 3-8	3 1-16	54½			4½ 4 Pm.	172	18 5 0	56½
3	151½	55½	56½	72½	91½	95½	16 3-8	3 1-16	54½			4 3½		18 5 0	56½
4	151½	55½	56½	72½	91½	95½	16 3-8	3 1-16	54½			4½ 4½		18 5 0	56½
5		55½	56½	72½	92½	95½	16 3-8		54½			5 4½		18 10 0	56½
6		55½	56½	72½	92½	95½	16 3-8		54½			4½ 4½		18 10 0	56½
7		55½	56½	72½	92½	95½	16 3-8		54½	9 5-16		4½ 4½	172	18 10 0	56½
8	151	55½	56½	72½	92½	95½	16 5-16		54½			4½ 4½		18 15 0	56½
9	152½	55½	56½	72½	92½	95½	16 7-16		54½			4 3½		18 15 0	56½
10	152½	55½	56½	72½	92½	95½	16 7-16		54½			4 3½		18 15 0	56½
11		55½	56½	72½	92½	95½	16 7-16		54½			3½ 4		19 15 0	56½
12		55½	56½	72½	92½	95½	16 7-16		54½			4 3½		19 15 0	56½
13	152½	55½	56½	72½	92½	95½	16 7-16		54½			5½ 4½		19 15 0	56½
14	152	55½	56½	72½	92½	95½	16 7-16		54½			3½ 4½		19 15 0	56½
15		55½	56½	72½	92½	95½	16 7-16		54½			4½ 4½		19 15 0	56½
16		55½	56½	72½	92½	95½	16 7-16	3 1-6	54½			4½ 4½		19 15 0	56½
17		55½	56½	72½	92½	95½	16 7-16		54½			4½ 4½		19 15 0	56½
18		55½	56½	72½	92½	95½	16 7-16		54½			4½ 4½		25 0 0	57
19	153	55½	56½	72½	92½	95½	16 7-16		54½	9 7-16		4½ 4½	172		56½
20	152½	55½	56½	72½	92½	95½	16 7-16		54½			4½ 4½	172		56½
21	153½	55½	56½	72½	92½	95½	16 7-16		54½			4			56½
22		55½	56½	72½	92½	95½	16 7-16	3 1-16	54½			4			56½
23		55½	56½	72½	92½	95½	16 7-16		54½						56½
24		55½	56½	72½	92½	95½	16 7-16		54½						56½
25		55½	56½	72½	92½	95½	16 7-16		54½						56½
26		55½	56½	72½	92½	95½	16 7-16		54½						56½
27		55½	56½	72½	92½	95½	16 7-16		54½						56½
28		55½	56½	72½	92½	95½	16 7-16		54½						56½
29		55½	56½	72½	92½	95½	16 7-16		54½						56½

T. BISH, Stock-Broker, Old State-Lottery Office, No. 4, Cornhill, London.

## TO OUR CORRESPONDENTS.

**W**E are extremely obliged to our elegant and learned Correspondent Polomicus, for a communication which would occupy almost half our Number, but it is so utterly inconsistent with the nature and design of our production, that we must decline the employment of it.

The paper of Agricola Meridionalis on national policy, with respect to the size of farms, in answer to Agricola Northumbriensis, will most probably be introduced into our publication for the ensuing month; but A. M. will be aware, that according to our established rule, it is much too late for the present.

It is with no small concern, we have noticed the spirit of controversy between two of our most intelligent and valuable correspondents, carried a little beyond the limits of perfect good temper and placability. We wish at the same time, that we give this gentle intimation, we could adequately express our gratitude to them for the disposition they have manifested to insure the reception of this work by the continued exertion of mature abilities.

The paper signed "Cato Redivivus," is of a political tendency, and cannot therefore be introduced into a production professedly devoted to rural affairs. If the noble person to whom we understand, we are indebted for it would impart to us the Agricultural History of his own estate, and the observations of his numerous tenantry, we should consider such materials among the most valuable communications of our work.

A. P. C. L. Rusticus, Columella, and Hortulamus are received.

We have to apologise to our Correspondent, who have favoured us with the articles in page 333 to page 336, for the following verbal errors :

Page 333, line 25, for *increase*, read *income*.

334, ——— 11 and 15, for *establishment*, read *inhabitants*.

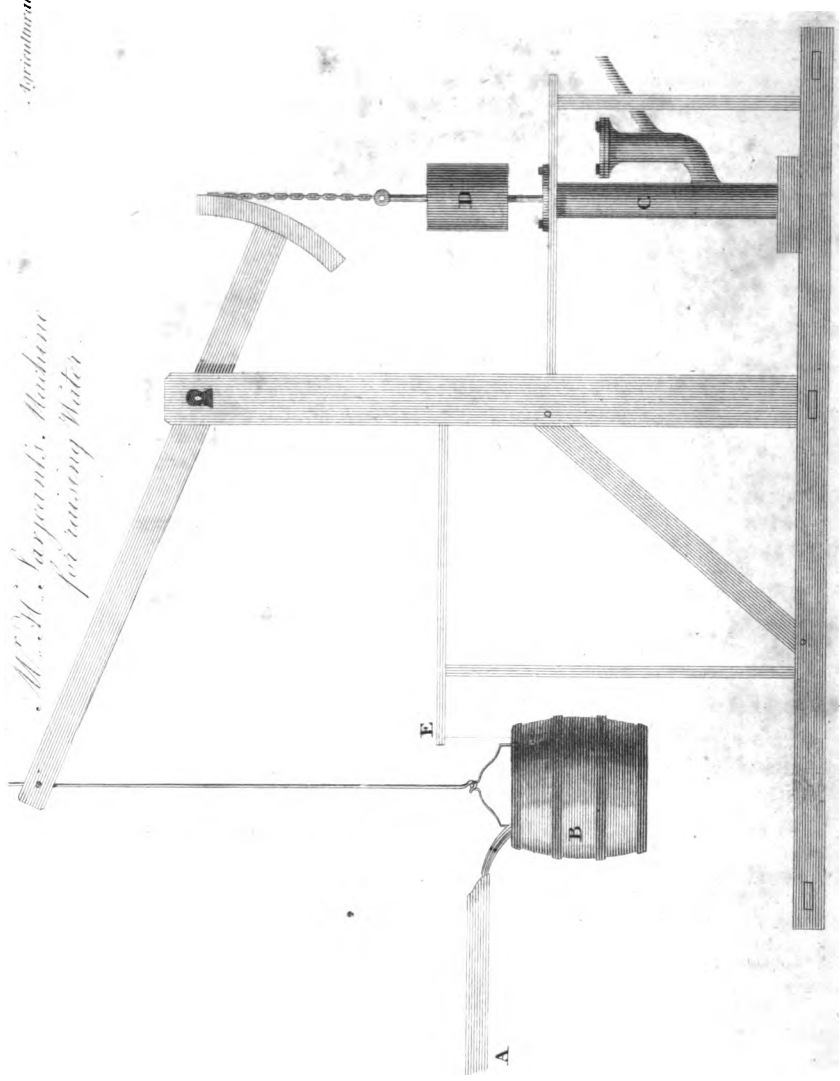
334, ——— 37, for *on*, read *our*.

336, ——— 17 and 21, for *will*, read *shall*.





M. H. Lippincott's Machine  
for raising Water



— Published June 20th 1854 by W. Griffiths Printer & Binder New York

# THE AGRICULTURAL MAGAZINE.

No. LIX.]

JUNE, 1804.

VOL. X.]

## DESCRIPTION OF A MACHINE FOR RAISING WATER.

[WITH A PLATE ANNEXED.]

*To the Editor of the Agricultural Magazine.*

SIR,

THE annexed account refers to the Plate, of which I have requested the introduction into your work. We have descriptions of hydrostatic machines extremely complex in their construction, and consequently very expensive, and on both accounts, therefore, wholly unsuited to general use. On the machine for raising water I now recommend, no artists are employed, unless you raise a plumber, a country blacksmith, and a carpenter, to that honourable distinction; and the whole cost exclusively of the pump and pipes, does not amount to 5l.

The following description was from Mr. Serjeant, of Whitehaven, in Cumberland, and it was in imitation of a similar engine, but less complete, employed in a lead mine near Keswick, in that county.

Irton Hall, the seat of E. L. Irton, Esq. is situated on an ascent of sixty or sixty-one feet perpendicular height; at the foot of which, at the distance of about 140 yards from the offices, runs a small stream of water. The object was to raise this to the house for domestic purposes.

To this end, a dam was made at a short distance above, so as to cause a fall of about four feet; and the water was brought by a wooden trough, into which was inserted a piece of two-inch leaden pipe, a part of which is seen at A.

The stream of this pipe is so directed as to run into the bucket B, when the bucket is elevated; but as soon as it begins to descend, the stream flows over it, and goes to supply the wooden trough or well in which the foot of the forcing pump C stands, of three inches bore.

D, is an iron cylinder attached to the pump rod, which passes through it. It is filled with lead, and weighs about 240 lb. This is the power which works the pump, and forces the water, through 240 feet of inch pipe, from the pump up to the house.

*Ag. Mag. Vol. 10.*

3 F

At E, is fixed a cord, which, when the bucket comes to within four or five inches of its lowest projection, becomes stretched, and opens a valve at the bottom of it, through which the water empties itself.

I am, Sir, yours, &c.

June 2, 1804.

L. O.

A TABLE OF THE EXTENT OF ARABLE LAND IN THE COUNTIES OF ENGLAND AND WALES, ALPHABETICALLY ARRANGED, WITH NOTICES OF THE QUANTITY OF WHEAT PRODUCED PER ACRE IN SOME OF THEM, UNDER THE PRESENT IMPROVEMENTS IN HUSBANDRY.

*To the Editor of the Agricultural Magazine.*

SIR,

I DO not affirm that the annexed table is perfectly accurate; my intention is only to state quantity in round numbers, and to give the best account I can produce of the comparative crops of wheat during the last three or four years.

These general calculations, although they are very far from being accurate, are both useful to the politician and the cultivator: they inform the one of the means of public, the other the sources of private subsistence, and contribute to that species of mental and corporeal energy, which is essential to the general good. I acknowledge the comprehensive view I have given is somewhat like the sweeping scheme of Chorographus in his earlier communications to your work, but I am not at all ashamed of it on that account, and I have been concerned to find, both his papers and those of Veterinarius discontinued in your last number.

Counties.	Bushels per Acre.	Acres arable.
Anglesey.....		200,000
Bedford.....	22	260,000
Berks.....	26	527,000
Brecknock.....		620,000
Buckingham.....	23½	441,000
Camarthen.....		700,000
Cambridge.....	25½	570,000
Cardigan.....		520,000
Carnarvon.....		370,000
Chester. ....	25	720,000
Cornwal.....	22	960,000
Cumberland.....	24	1,040,000

Counties.	Bushels per Acre.	Acres arable,
Denbigh.....		410,000
Derby.....	26	680,090
Devon.....	26½	1,920,000
Dorset.....	24½	772,000
Durham.....	23	610,000
Essex.....	26½	1,240,000
Flint.....		160,000
Glamorgan.....		540,000
Gloucester.....	20	800,000
Hants.....	24	1,312,500
Hereford.....	24½	660,000
Hertford.....	25	451,000
Huntingdon.....	17	240,000
Kent.....	26	1,248,000
Lancaster.....	26	1,150,000
Leicester.....	27	560,000
Lincoln.....	30	1,740,000
Merioneth.....		500,000
Middlesex.....	26	247,000
Monmouth.....	22	340,000
Montgomery.....		560,000
Norfolk.....	26	1,148,000
Northampton.....	26	550,000
Northumberland.....	30	1,370,000
Nottingham.....	24	560,000
Oxford.....	22	500,000
Pembroke.....		420,000
Radnor.....		310,000
Rutland.....	31	110,000
Salop.....	22	890,000
Stafford.....	27	810,000
Somerset.....	26	1,975,000
Suffolk.....	24	995,000

Counties.	Bushels per Acre.	Acres arable.
Surrey.....	25	592,000
Sussex.....	28	1,140,000
Warwick.....	26	670,000
Westmoreland.....	22	510,000
Wilts.....	24	876,000
Worcester.....	26	540,000
York.....	24	3,770,000
Total contents.....		40,000,000

I am, Sir, yours, &c.

London, June 5, 1804.

VIATOR.

# METHOD OF CONVERTING WEEDS AND OTHER VEGETABLE MATTER INTO MANURE.

*To the Editor of the Agricultural Magazine.*

SIR,

THE following article is an extract of a letter from Mr. H. Brown of Derby, which I think may very well rest on its own merit; and I am the more disinclined to obtrude my remarks, because of the complete denudation (if I may so express myself) of the principles of the following method (although not of their application) in a long series of letters, introduced into the late numbers of your Magazine. You will judge of the propriety of the insertion, and with your decision I am sure I shall be perfectly satisfied.

“ According to a promise I made some years since, I beg leave to communicate to the Society for the encouragement of arts, &c. and (if thought worth notice) by them to the world, a composition for manure. Fearful it would not answer the purpose so fully as I could wish, I deferred it from year to year: but I now find, by numerous trials made by my friends as well as by myself, the very great utility of the composition, as well as its cheapness, with the capability of its being made in any situation, and in any quantity. The mode of making it is as simple, as I trust it will be found productive. It is nothing more than green vegetable matter, decomposed by quick or fresh-burnt lime. Upon a layer of vegetable matter, about a foot thick, a very thin layer of lime, beaten small, is to be laid, and so on vegetable matter, then lime alternately. After they have been put together a few hours, the decomposition will begin to take place; and, unless prevented, either by a few sods or a fork-full of the vegetables at hand, the mixture will break out into a blaze, which must be

prevented at all events. In about twenty-four hours, the process will be complete, and you will have a quantity of ashes ready to lay on your land at any time you wish. Any, and all sorts of vegetables, and weeds of every description, if used green, will answer the purpose. They will doubly serve the farmer, as they will not only be got at a small expence, but will, in time, render his farm more valuable, by its being deprived of all noisome weeds.

“ But if this composition answer the purpose, as I flatter myself it will, a very short time will see almost every weed destroyed. Supposing that to be the case, I have made a calculation with clover grown for the purpose; for instance, I will take one acre of clover, which at one cutting, will produce from fourteen to eighteen tons of green vegetable matter, and will require about three tons of lime; this, when decomposed by the above process, will yield ashes sufficient to manure four acres, the value of which I estimate at something under 4l. The clover, according to the value of lands here, at 2l. which, taking the average of the kingdom, is too much: the lime also at 2l.; but that will vary according to the distance from which it is to be fetched; take them together, I think the above will be about the average value. Now if this is the case, and as far as I have been able to try it, I find it so, how valuable must this method be to the community in general. If it answers the purpose, I shall feel myself much obliged by the Society’s making it as public as they possibly can.”

“ The vegetables should be used as soon after they are cut as possible, and the lime as fresh from the kiln as the distance will allow of, as on those two circumstances depends the goodness of the composition.”

I am, Sir, yours, &c.

*Sheffield, June 7, 1804.*

A. B.

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## ATMOSPHERIC PHENOMENA CONNECTED WITH AGRICULTURE.

*To the Editor of the Agricultural Magazine.*

SIR,

I HAVE occasionally seen in your miscellany meteorological observations transmitted by your correspondents in various parts of the kingdom. It is acknowledged on all hands, that this subject has the nearest connection with the produce of the field. It is in vain that the soil is of the richest kind, in vain that the culture is most skilfully conducted, in vain all the labour and ingenuity of man is wisely directed, if the season be not propitious. But although it is universally admitted, that the atmospheric phenomena are in this respect

powerfully operative, yet the precise means by which these wonderful influences are effectual, has been less attended to of late years than, perhaps, any other department of scientific agriculture. The annexed account is from an ancient city I have been accustomed to visit for many successive years; it is so far removed from the accidental influences so frequent on the coast, that the observations deserve particular attention. In the remarks made by one of your correspondents from Liverpool, the peculiar circumstances affecting our sea ports, seem not to have been recollected. With these strictures, I submit the article to the attention of your readers, at the same time acknowledging my obligations to the source from which I received it.

### METEOROLOGICAL OBSERVATIONS AT YORK.

DURING THE YEARS 1800, 1801, 1802, AND 1803.

Average height of Fahrenheit's Thermometer in the shade, for each month; deduced from observations made at 8 A.M. and half past 2 P.M.

Months.	1800. Degrees.	1801. Degrees.	1802. Degrees.	1803. Degrees.
January .....	36	40	36½	36
February .....	38	41	39	38½
March .....	42	45½	44	44½
April .....	53	50	50½	51
May .....	60	59	54	55
June .....	61	62½	62	61½
July .....	69½	64½	60	68½
August .....	69	66½	66½	64½
September .....	61½	60	58½	56
October .....	50	52	51	50
November .....	42½	41½	43	40½
December .....	39	35	39	37½

### Greatest Elevation of the Thermometer in each Summer.

1800. July 31 and Aug. 11. 83.	1801. Aug. 17. 79.	1802. Aug. 18. 81.	1803. July 2. 81.
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### Lowest State of the Thermometer in each Winter.

Winter of

1799, 1800.	1800—1.	1801—2.	1802—3.	1803—4.
1800, January 1. 11.	1800, Dec. 31. 19.	1802, Jan. 15. 12.	1803, March 5. 20.	1803, Dec. 9. 9.

The following TABLE divides the Mariner's Compass into eight points, in one of which it supposes the wind to prevail every day; and it is intended to shew the number of days on which the *prevailing* wind was from the given points.

Prevailing Winds.	1800. Days.	1801. Days.	1802. Days.	1803. Days.
S. ....	41	37	38	40
S. W. ....	68	68	106	74
W. ....	81	79	81	71
N. W. ....	52	49	38	54
N. ....	24	32	32	33
N. E. ....	27	38	18	25
E. ....	26	28	14	28
S. E. ....	46	34	38	40

It will be observed from the above Table, that the S. W. and W. are the prevailing winds. It often happens that though the wind be from the N. E. S. or S. E. the upper stratum of clouds continues to move from the S. W. or W. This is particularly the case in Summer, when a breeze from the sea-coast will arise in the heat of the day and cease in the evening, being then succeeded by a W. wind. So that the predominance of westerly winds may be considered as greater than the Table indicates.

#### GENERAL REMARKS.

The year 1799, which preceded the above series was remarkably cold and wet. It commenced with a long and severe winter. In February, there was one of the greatest falls of snow ever remembered; and so late as the 5th of April we had a severe storm of snow. In May there was little appearance of Spring; and it was not till the beginning of June that the weather became mild. The latter end of June, a cold rainy season began, which lasted four months, with the intermission of a fortnight in September. The fruits of the earth did not ripen, and the violent and continued rains destroyed great part of the corn, and materially damaged the rest, so that a great scarcity was the consequence. The winter of 1799—1800, was cold and wet.

The year 1800 was the reverse of 1799, remarkably hot/dry. The fine weather commenced the latter end of March, and lasted till the latter end of September. During this period, the quantity of rain was scanty; and in the month of July and the first fortnight of August, there was a continued draught, with a burning sun and sultry air. The pastures were burnt up; but the corn harvest was good, and would have been better had the seed of the preceding season been good, and the ground in proper condition when it was sown. The winter 1800—1801 was mild.



The year 1801 was mild and temperate. In the Spring, there were frequent returns of frost after warm weather. The Summer was warm and rather dry, but occasional falls of rain prevented the earth from being parched. The harvest was early, plentiful, and well ripened. The winter 1801—1802, was rather severe.

The year 1802 was, on the whole, temperate; less than the average quantity of rain fell, the Spring was backward, and the months of May and July unusually cold, but the harvest was good, and a course of serene settled weather, which began about the middle of September, and continued three weeks, was favourable for completing the harvest. The winter of 1802—1803, was very mild.

The year 1803 was fine and dry, there were seldom ten days without some rain, yet from the scantiness of the quantity and the dryness of the three preceding years, there was such a deficiency of water, that many springs were dried up, and it was not till the end of October that the rain fell in a sufficient quantity to replenish them. Though the season was dry it was not proportionably hot, there were some burning days in July, but the nights were cold during the whole summer, and the Autumn was early. The commencement of the winter was severe. Yours, &c.

EBORACENSIS.

## USEFUL MEMORANDA IN PHARMACY.

*To the Editor of the Agricultural Magazine.*

SIR,

I HAVE so great a reluctance to suppress any article of information, that appears to me essentially useful, that I am willing to avail myself of every opportunity to give it circulation. You will therefore not be surprised, if you should discover the subsequent particulars in a contemporary publication, the sale of which as extensive as your own, but where the intelligence will not be likely to be preserved to future times. Without regarding at all the arrangement, I give it you precisely in the form in which I have received it.

Those who keep cows in high condition should let them blood two or three weeks before they calve. It will relieve them from danger.

For a horse that has the quincy; take rosin powdered, mix it with oil or spirits of turpentine, spread it upon thick flannel, and bind it under the throat; it will soon effect a cure.

A certain and safe medicine for the cholic in a horse: put an ounce and a half of spirits of wine into three pints of warm ale; after giving it to the horse with a horn or bottle, ride or drive him about ten minutes.

For the cholic in a sheep or human being; half an ounce of spirits of wine, and half a pint of warm ale. I am, &c.

D. C.

## ON TITHES. IN ANSWER TO AGRICOLA MERIDIONALIS AND NORTHUMBRIENSIS.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** ACKNOWLEDGE my obligations to you for the introduction of a short letter of mine, in page 191 of your present volume. This has produced two answers from your remote correspondents, Agricola Meridionalis and Northumbriensis, and if they diffuse their principles in their own respective vicinities, and in the intermediate countries, that their desired object will soon be attained, requires no ingenuity to discover.

I belong, Sir, to an order, which if not proscribed, is exposed to very serious privations. All around us is energy and activity, directed to the pursuits of commerce and agriculture; immense wealth is acquired, and capacious ambition is filled and satisfied, while the clergy are not only prohibited the engagements of trade and commerce, but are not permitted to interfere in the cultivation of the soil, by which, by a sort of miracle, the abundance of nature and providence is supplied to relieve the necessities and gratify the passions of man for dignity and importance. Although we are thus deprived of the means, yet by the three-fold duty stated in the 4 Hen. 4, c. 12. we are required to "keep hospitality," and the residence within the parochial limit is particularly expressed to be; not only for the cure of souls, but for the exercise of this hospitality; that is, to open our doors equally to the intruder and to the indigent; to feed the plethora of the one, and alleviate the wants of the other. Our peculiar difficulties commence almost with our existence: instead of joining the gay in the hour of festivity; instead of invigorating our bodies in the manly sports of the field, at an early period we are constrained to disappoint the natural buoyancy of youthful ardour, and under the faint rays of the midnight taper, slowly and laboriously to acquire the wisdom of early times; and if, from the infirmities of sickness, or from deficiency of intellect, we are discovered to be *minus sufficiens in literaturâ*, or possessing the greatest vigour of mind, and all the holy lore of our profession, we are so deemed deficient by some ignorant and conceited examinant, all our hopes are lost, and we are thrown upon the world without the means of which other men are possessed, who have prepared themselves for the general duties and employments of active life.

In return for the disadvantages of such a situation, the legislature has thought fit to provide for the sacerdotal order a source of subsistence originating in the venerable institutions of the Jewish law; and I am very glad to see, at least, that

A. N. in the commencement of his letter, approves of my conduct, when I admit our pretensions to tithes to rest solely on legislative regulations. I will concede to him yet more, and profess to repose my claim only on these regulations as supported by British law, rejecting all those pandects, codes, institutions, councils, decrees, and decretals of the imperial or pontifical establishment, which have not been so confirmed. Let us see, then, how the case stands, without clerical prejudice on the one hand, or secular discontent on the other. Van Leeuwen, speaking of the canonical law in Holland, where it was extensively introduced, says, that it is only so far binding as it derives its force from custom and the consent of the people. This, I conceive, is good law here, and I appeal to Agricola Meridionalis, who is a formidable disputant in such matters. This is no new principle, the 25 Hen. VIII. c. 21. expressly declares; that laws may be adopted from foreign institution, and thus become a substantial, constituent, and integral part of British law. By this means, not only a portion of the papal law has become our own, but the law of nations, the marine law, and if a question came before our Courts which is properly the object of a foreign municipal law, they receive information what is the local rule, and decide by it exclusively. With these views, let us examine for a moment the citation of A. M. from the 2d and 3d Ed. VI. Alluding to me, he says, "But before he relies for defence on this favourite weapon, let him also recollect the terms of the 7th section of the statute he has adverted to, whereby the payment of this distinction of tithes is confined to such persons and places, by whom and in which the same have been accustomedly used, and ought to have been paid;" and he adds, "where they have not been usually paid, they are not to be levied." He has entirely forgotten the concluding words of his own extract, "and ought to have been paid." So that not only where from the generosity of the Church (or from a laxity and neglect so nearly allied to it) tithe is to be collected where it has not been accustomedly used, and where it "ought to have been paid." No comment can make this oversight of A. M. more obvious, I shall therefore only remark, that all the triumphant declamation of this correspondent about aerial castles, grand portals, sacerdotal arms, and episcopal mitres, depending on this statement, has lost its support, and like many other grave logicians, his argument is degraded by one of those vulgar and marvellous transitions familiar in modern farce; the giant is dwindled into the dwarf, and the proud champion is converted into an innoxious phantom.

Let us next see what are the exceptions he makes to the claim of personal tithes. 1. An inn-keeper is not liable.

2. a usurer is not liable; 3. nor a *shaving mill* (this I do not precisely understand, and perhaps A. M. will indulge me with an explanation). 4. Nor is a copper mill, a fulling mill, or a glass-house. And why are they excluded? A. M. explains it to us, they "pay no tithes, on the ground that the profits arise from the mere labour and industry applied to these undertakings." I may, therefore, with the consent and concurrence of A. M. state the converse of his own proposition, that where the profits arise in any branch of commerce, trade, or manufactures, not from the mere labour of industry applied, but from the materials employed, or partly from the one, and from the other, in all such cases, the produce is titheable. Even then, with the exception of A. M. including also his "*shaving-mill*," the clergy have reason to be fully satisfied with the legislative stipulations in their favour.

Agricola Northumbriensis boasts, that the laity would not suffer the revival of the dormant rights of the church. I do not wonder that he is so fractious about the expression *summum jus*, for he seems very much disposed to withhold it from the sacred order. The fact is, as the law now stands, the claims due, and the rights exacted are very different, so that in the contests between the clergy and laity on the assessment of tithes, the former almost always prevail, and he will not wonder, if clothed with these powers, we exclaim, with the English Barons, *Nolumus leges Angliæ mutari*. This is some kind of answer to his proposal for a commutation of tithes, and if, as he says, the table of the House of Commons would be *much too small* to contain the very numerous petitions which would speedily be presented to promote this object; I hope and believe that the wisdom of that branch of our legislature would be *much too great* to listen to the intreaties of clamorous and discontented partizans, who presumed to avow in the solemn hall of debate, their disrespect for the constitution in church and state as by law established.

But, says A. N. The clergy of North Britain pay no tithes. I wish to make no invidious comparisons between the episcopal clergy of England, and the presbyterian ministers of Scotland, but this I may venture to affirm, that since the subversion of the hierarchy in the latter, by the unchastised violence of Knox and his adherents, very few examples can be produced of profound learning, or enlightened philosophy amongst the Scottish teachers, however respectable they may be for the purity of their morals, or venerable for the fervour of their piety.

A. N. enquires toward the conclusion of his letter, "Can it be maintained, that the public good should be sacrificed to the right and obstinacy of the tithe-holders?" The peculiar circumstances in the history of the ancient kingdom of

Northumbria, might have convinced this inhabitant, that right and obstinacy are not synonymous; the character of the illustrious Ella, collected from the monuments of his country, would teach him with what firmness right should be asserted, and with what contrition obstinacy should be resigned. This ingenious correspondent of yours, in the multifarious subjects of his attention, loses that simplicity of thought necessary to just reasoning and sound philosophy, and in this passage he expresses a doubt, if the public good should be sacrificed to private right. It is the sublime maxim of English jurisprudence, that the public good is ever consistent with private right, and that whenever private right is violated, not only the general good is sacrificed, but the benefit of every individual is surrendered, whose security and independence necessarily repose on the maintenance of private right. In the instances to which he adverts, of statutes for the grand scheme of internal navigation, he ought to have been aware that particular exceptions are made, that a gentleman's mansion and estate are not to be exposed to wharfingers and bargemen, and that the low scenes of mercenary traffic should not disturb the ancient bowers of the Muses he has inherited from his ancestor. These exceptions in favour of the aristocratic laity, I claim on behalf of the clergy: what they demand for the patrimonial hearth, I require for the sacred altar.

I am, Sir, your's, &c.

*Rudland,*  
June 6, 1804.

CLERICUS.

### THE PRESENT STATE OF CANAL CONCERNS IN VARIOUS PARTS OF THE KINGDOM.

*To the Editor of the Agricultural Magazine.*

SIR,

**I** AM one of those unfortunate maniacs who have considered the commerce and prosperity of the country very much to depend on the modern expedients to improve the internal navigation of the country, and if my fate were to depend upon a jury of country gentlemen of large landed estates, I should be assigned to the hospital of incurables in Bedlam. Happily for me, however, I am permitted to appeal from their sentence to a more intelligent tribunal, to those who know, that the sinews and strength of this country, do not entirely rest on the baronial lord in his antiquated castle, but on the commercial intercourse which has been established since the happy days of Queen Bess. Under these impressions I am bold enough, Mr. Editor, to suppose that some account, collected with great industry, of the present state of canal navigation, will be acceptable to you and a large proportion of

your readers: without affecting, therefore, to attribute this laborious and comprehensive investigation to my own activity and talents, I will expose to your notice a general view of the present state of aquatic communication in this country, with some occasional observations on foreign improvements of the same kind. On a subject so diffuse, it will immediately occur to your correspondents, that in some cases, the information will not be the most recent, or the most correct; in imitation, therefore, of the modesty of your friend Chorographus, I am solicitous to invite the assistance of those whose situations and connections afford them a local and minute knowledge of the particulars to which my remarks will be directed.

The canal from London to Basingstoke, which has been completed some years, conveys goods thither for 15s. per ton, for all parts of Hants and Wilts, and many parts of Dorset and Somerset, to the great convenience of the manufacturers, traders, and inhabitants of those parts. The canal from Southampton to Salisbury is in great forwardness, and it is to be hoped that it will be continued to Bristol, to communicate with the English and Bristol Channels. 1800.

The Peak Forest Canal, which affords a cheap and easy water-communication between the Peak, the neighbouring country, and the most populous parts of Lancashire, was opened on the 1st of May. The completion of this bold and difficult undertaking, through numerous hills and valleys, precepices, and declivities, is an object of general admiration, and the advantages it promises to the public are of the first importance, and at 10l. per cent. less than the first estimation. 1800.

Four hundred and fifty shares have been forfeited by the subscribers to the Kennet and Avon canal, in consequence of defaults in the payment of the calls. 1800.

In the month of July, Mr. Yates, master and proprietor of a canal barge at Colebrook Dale, lately went all the way, which is more than 400 miles by water, from that navigation to Hambro'-wharf, near London-bridge, in fourteen days. He touched at Worcester, Gloucester, and other towns, with part of his cargo. This was the first barge that ever made the entire passage. 1800.

The Grand Junction Canal, which is now opened, forms a complete canal communication between the Thames, the Severn, the Mersey, and the Humber. 1800.

According to Mr. Dodd's report on the intended Grand Surrey Canal, it was to run from Kennington Common to the left of the road by Stockwell, Clapham, Tooting, and Merton, and across Norbiton Common to Kingston. A branch from Norbiton Common would extend to Epsom, by the right of Malden and Ewell; another branch would run

across Mitcham Common to Croydon; and from Kennington Common there would be other cuts extending to the Thames, at South Lambeth, to the King's Yard at Deptford, to Greenland Dock and Rotherhithe. The distance from the basin in Southwark to Epsom would be sixteen miles by the canal, to Croydon twelve miles, and Mr. Dodd's total estimate 87,000*l.*, and the annual produce to the proprietors would be upwards of 8,000*l.* 1800.

Oct. 13, a public exhibition of Mr. Fusell's balance-lock on the Dorset and Somerset canal, was a second time made, and laden boats were with great facility transferred to and from the upper to the lower level, in a manner that gave great satisfaction to a numerous company of noblemen, gentlemen, and others, who were assembled on the occasion. The locks were continued in action two hours, that the ingenious might have ample testimony of its principles and utility, which are now fully established and admitted, not only by committees of canal companies, but also by the ablest mechanics, who have given in their inspection. There seems no doubt, that the balance will be brought into general use in all canal undertakings, where saving water is an object of consideration. 1800.

The branch of canal leading from the basin in Buckinghamshire to the Grand Junction, was opened on the 1st of May: a number of the principal proprietors, including the Marquis of Buckingham, Mr. Præd, and Mr. Selby, gentlemen of the committee; Mr. Box, the treasurer, and a large party of ladies and gentlemen, were in a barge which led the way to twelve other barges, laden with coals, slate, and a variety of merchandize. This branch, which is nine miles and a half in length, was completed in eight months, and will secure to an extensive district the most substantial benefits. 1801.

It is in contemplation to form by canals a grand junction of the rivers Thames, Medway, and Rother, in Sussex, to establish an inland communication, or union of the ports of London, Rochester, and Maidstone, &c. Rye in Sussex. The great national utility, private advantages, &c. of such a navigation will be obviously apparent, when it is considered that Rye harbour has been proved, from actual surveys, to be capable of improvement for the admission of vessels of the greatest burthen; of navigation from Gravesend, the Nore, North and South Foreland, the Downs, Goodwin Sands, and Dungeness would be avoided, and thereby lives and property to an incalculable number and amount saved: it would also be a quick, cheap, and safe conveyance of timber, or naval stores, &c. in war time, from out of the Wealds of Kent and Sussex, into five royal dock-yards, and as many private yards, in the river

Thames, and in peace would be a secure, near, and convenient intercourse from London to Rye, and, as far as it goes, to the western ports of the kingdom, and to foreign parts. 1801.

Application was made to parliament for a bill for making and maintaining a navigable canal from Spitty, in the parish of Llanelly, to or near the town of Landoverly, which canal was to pass through the several parishes of Llanelly, Llangenoch, Llanedy, Llandebye, Llandinger, &c. all in the county of Carmarthen. 1801.

An application was likewise made to parliament for making a navigable canal from the town of Cheltenham, to the river Avon, near Tewkesbury, to pass through the townships of Cheltenham, Swindon, Uckington, Elmstone, Hardwicke, Elmstone Tredington, and Tewkesbury, all in the county of Gloucester. 1801.

The Thames and Medway canal has a culvert, communicating with the Thames, in which the engineer, (not Mr. Dodd) has introduced a valve, by which the canal may be filled or emptied at pleasure. 1801.

The Wilts and Berkshire canal is completely navigable from Semington to Chippenham, Calne, Dauntsey Park, and Bowes Farm, near Wooten Bassett, and an uninterrupted communication by water, by the junction of the above with the Kennet and Avon canal, from those places to Bath and Bristol; the neighbourhood on the line will in consequence be greatly benefitted by obtaining a supply of excellent coal at a low price, and the timber and other articles ready to be conveyed, will create a considerable trade immediately. 1801.

A canal was proposed to be cut from Newcastle to Haydon Bridge. It is a work of the most extensive and essential importance to the commerce and manufactures of Newcastle and the adjacent country. 1802.

The completion of the Glamorganshire canal from Merthyr Tidwel to Cardiff, has opened a ready conveyance to the vast manufactory of iron established in the mountains of that country, and many thousand tons are now shipped annually from thence. A commodious dock has also been formed at the end of the canal, where vessels of large burthen may lie afloat; and a little below the dock, ships are admitted into what is termed a sea-lock, which communicates with the ocean just within the entrance of Cardiff River. On the banks of the dock, spacious warehouses are erected by the proprietors of the iron-works. At Merthyr Tidwell these various operations have diffused a spirit of exertion, and will bring into action talents that have hitherto lain dormant. Mr. Watkin George, of Caferthwa, has erected a wheel, 50 feet in diame-



ter, to blow three furnaces, turned by a very small stream of water : and at Aberdare another extraordinary machine has been constructed in which two wheels, each 40 feet in diameter, working like a figure of 8, increase the power of each other so much that the water which turns the upper wheel falls down and rises in turning the lower one : the effect and utility of the above canal is exemplified in divers ways and schemes. At Märgam, in Glamorganshire, a stupendous machine is erected to roll copper ; two vast wheels of iron, 24 feet in diameter, are set in motion by a steam engine ; one of the wheels, called a fly, makes 30 revolutions in a minute, and regulates the movement of the whole machine. Notwithstanding the iron works already established on and near this canal, nearly twenty blast furnaces are now erecting.

At the last general half-yearly meeting of the company of proprietors of the Leicester and Northampton Union Canal, at Market Harborough, it was among other things unanimously resolved, that the canal should be carried forward to Harborough, and also to join the Grand Junction Canal in the most convenient place, and a committee was appointed to procure the proper surveys. 1802.

The plan of the line of inland navigation between the east and west seas was again revived, so as to form a canal between Newcastle and Maryport, which had long been the subject of popular discussion, and rejected by Parliament some years ago. 1802.

A beautiful chart of the canals in Russia is just published, which contains all that have been formed between the White and Black Sea, and between the Baltic and the Caspian : from which may be seen the great inland navigation of the interior trade of Russia, by the establishment of canals, sluices, locks, &c. The famous Oginski canal, that communicates between the rivers Dnieper and Niemen or Memel, which was begun some years ago by the Poles, and then lay neglected, is now so far extended that it has been navigated. A new canal between the rivers Sornin and Tickwinka, eastward from Lake Ladoga, is begun. 1802.

The sum of 400,000*l.* has been subscribed as a stock to be employed in making a canal on the North side of London, from the basin of the Paddington canal to the London Docks at Wapping. 1802.

The canal between Glasgow and Leith is finished, and there remains no doubt but the trade of North Britain has felt the advantage of it. 1802.

The canals from Chalons-sur-Saone to Paris (being 65 leagues) has been finished and opened. The various objects of the fine arts, plundered from Italy, Greece, Egypt, &c. have been conveyed to the capital of France by water. 1802.

The new canal to the town of **Horncastle** was opened the 16th, Sept. 1802, when three vessels, richly ornamented with colours, entered the basins of the navigation; they were hauled by ropes, amidst the acclamations of more than 2,000 spectators, to the great benefit of that town, and the country round.

The late Duke of Bridgewater, highly to his credit, devoted much of his attention to commerce, by which he attained an immense fortune, and by means of a canal of his own, at least 40 miles long, covered with vessels of various sizes, moving in various directions, facilitating interior communications, &c. carried on an extensive and lucrative business. 1802.

A canal has been begun, which will form a complete line of inland navigation between the city of **London** and the port of **Lynn**, in **Norfolk**, under the direction of **Mr. R. Dodd**; it is to be named the **North London Canal**, and is expected to be the only means of reducing the price of the principal articles of provision in the **London markets**.

Another canal, of great national importance has been conducted from **Deptford** to **Portsmouth** and **Southampton**, to the naval arsenals there and at **Gosport**, and might be completed for 348,735*l*. This canal is preferred to an iron-rail road, as the carriage is much cheaper; for instance, 60 tons of corn could not be transported from **London** to **Portsmouth** on an iron-rail road for less than 125*l*. 10*s*. but by a canal for 49*l*. 5*s*. The communication between the canal at **Paddington** and the **West India Docks**, is to be effected by an iron-rail road only. 1802.

A meeting of the principal inhabitants of **Sandwich** and **Canterbury**, was held at the latter place, to consider of an application to **Parliament** for cutting a canal from **Canterbury** to the sea. Two engineers made surveys to report on this subject. 1802.

The subscription for making locks on the **Somersetshire Coal Canal**, for conveying coals and other articles from the upper to the lower level (in lieu of the other expensive mode of unloading, and the inclined plane) was filled up, and carried into execution. 1802.

A navigable canal is to be cut from the river **Thames** at **Shadwell**, to **Waltham Abbey** in **Essex**, and has been continued from **Bishop's Stortford** to **Lynn**, by a cut out of the river **Stort** into the river **Cam**. 1802.

Since the year 1758, no less than 165 acts of **Parliament** have received the royal assent for altering, cutting, amending, &c. canals in **Great Britain**, at the expence of 13,008,199*l*. the whole subscribed by private individuals; the length of ground they employ is 2,896  $\frac{1}{4}$  miles. In this aggregate of length and expence 43 canals, (private property) are not in-

cluded ; and among these are those of the late Duke of Bridgewater, Sir Nigel Bowyer Gresley, and the Earl of Thanet. Of these acts, 90 are on account of collieries opened in their vicinity, and 47 on account of mines of iron, lead, and copper, which have been discovered, and for the convenience of the forges and furnaces working thereon. Eight of these furnaces and 12 forges, in one county only, consume 24,284 tons of iron ore, and 12,324 tons of pit-coal annually, and manufacture in the same time 13,104 tons of iron goods. More than 100,000 tons of pit-coals are annually taken down the Severn from the Madely and Brosely collieries, to the towns and villages in the neighbourhood.

Although it is my intention to continue the important subject of the history of canals to the present moment, and to continue it through the medium of your Magazine, I am not yet furnished with sufficient materials for this purpose: but the subsequent scheme seemed to involve an object so important, that although it is lately formed, and interferes in some degree with the regular progression of dates, I cannot avoid imparting it to the public. Further particulars may be obtained by applying at the counting-house of Thomas Pomeroy, Esq. No. 12, Bishopsgate-within, or at his house, Grove-place, Hackney.

The increasing demand in all parts of the country for every article of consumption, while it may be ranked as a principal cause of our trade and commerce being carried to the unparalleled bounds to which they are now extended, has naturally led the attention of the public to the most economical mode of conveyance for the ready attainment of those articles, and given rise to a species of property, which (though at no very remote period in this country, but generally known) has now become the object of frequent contemplation, and of high importance, as well from the extent of its value, as for the advantages accruing alike to the public, as to the particular promoters and holders of that property.

In the contemplation of canal property, it is observable, that in many instances we have that to regret which is not very usually attendant on undertakings of magnitude, viz. the expence surpassing the means. This is the fact with respect to many of these undertakings, in various parts of the kingdom, which now lay useless, though far advanced towards completion, for want of a finishing hand being put to the labour; and while the benefits, which by completion would be received, are withheld, through the exhausture of funds. The weary promoter of the scheme has to lament his having gone so far in the expenditure, or his inability to go still further.

To obviate this difficulty, to aid meritorious individuals in such pursuits, and to promote the public good by entire

completion of such almost finished works, should be the business of some *incorporated body*, whose funds may be equal to the means required, to whom, with the public at large, the ultimate benefits will accrue, and to whom more immediate advantages are proposed in the following

#### PLAN.

It is proposed to raise the sum of £1,000,000 l. by shares of ten pounds each, for the purpose of purchasing shares in canals yet unfinished, and lending money at interest to such *eligible canal companies*, as may require it to enable them to complete and render beneficial the work in which such companies are engaged.

It may naturally be asked, what are the advantages? what the benefits and inducements for *particular* persons to engage in this plan? to such as wish to make deposit of their property as a source of annual produce? The answer is, that beyond the interest arising from money lent to canal companies, would be the certain, though incalculable benefit which must arise from such shares of canals as would become the property of the incorporation, purchased through the present distressed state of the concerns, at a small and inconsiderable value, but which would be rendered a source of income to the incorporation by the completion of the works, through the assistance afforded by it.

But to such promoters of the plan who are already holders in unproductive and unfinished canals, from the causes above suggested, it holds out a near prospect of double advantage to them; it first yields equal benefit with the subscriber, who vests his money as a source of annual revenue; and in the next place, by bringing to perfection and maturity the undertaking, in which the subscriber, "A Canal Holder," is engaged, it calls into action his unproductive property, and the reviving hand of the incorporation renders that gainful to him, which was at least a barren property, if not an incumbrance.

A meeting, therefore, is proposed of such persons as may be desirous of carrying this beneficial and laudable purpose into effect (of which public notice will be given) at which meeting the number of shares necessary to entitle a vote and directorship will be determined on, and at which meeting will be submitted the plan and rules of establishing the incorporation, the committee, the management and expenditure of the funds, and of such other matters as may be expedient.

I am, Sir, yours, &c.

AMNH.

*To be continued.*

## RECIPE FOR THE COMPLAINT CALLED THE WATER IN SHEEP.

*To the Editor of the Agricultural Magazine.*

SIR,

EVERY question connected with this animal must effect the staple manufacture of this country, which, independently of every other consideration (and several there are at least of equal importance) would incline you to give it a place in your valuable Work. This, however, is a subject which has been visited by your peculiar favour. The present paper was intermediately received from Edward Topham, Esq. of Wold Cottage, near Driffield, and I conceive deserves a reception into your Miscellany.

It has been often remarked how little the disorders incident to sheep are even known in sheep countries. The common shepherds keep pace with the common farriers, and only observe, *that the animals have always died, must die, and they cannot help it.*

The following experiment, therefore, may be useful to the public, communicated to me by a tenant of mine.

A farmer, near Kilham, turned his flock of sheep into a field of turnips he had hired, which were remarkably strong and good. In a short time he lost twenty of them by the disorder called the water. He grew so alarmed, that he removed his sheep, and would not permit them to eat any more turnips; on this the owner of the land remonstrated, and insisted on the turnips being eaten upon the ground. After some little time and altercation, the farmer brought back his flock, and shortly after six more of them died. On this he took his final leave of the turnips, and said, "They killed sheep, and would have nothing more to do with them."

The owner of the land had them publicly cried, but the turnips had got so bad a name, that with no little difficulty they were let at half the price. The next farmer sent in his sheep, and in a short time lost about eight or ten. On this second disaster, the reputation of the turnips was gone entirely, and my tenant had the offer of them for nothing, provided he would eat them up, to which he agreed.

He sent there *six hundred and thirty sheep*, so that the experiment was a very full and fair one. The method he pursued he had heard of in Northumberland. As soon as the sheep had filled themselves with the turnips, he made his shepherd go amongst them, and move them about. They voided in consequence a good deal of water. He did this for some days at stated intervals, and sometimes made his shepherd go amongst them in the middle of the night. By this method they were never suffered to lie long, and swell with

what they had eaten. The consequence of this proceeding was, that after eating up the whole of these fatal turnips, he removed his six hundred and thirty sheep, all in good condition, without the loss of a single sheep.

Two circumstances may be deduced from the above experiment: the complaint of the water which frequently kills sheep, when put on to turnips, arises from their gorging themselves with this watery food, and then continuing without exercise to carry off the beginning complaint: the second, that this method may tend to prevent the disorder, at the small expence of a little trouble to the shepherd.

Should this method prove on trial as successful as the experiment gives me hope, the farmer will have many reasons to thank the man who tried it, and the public will be obliged by the communication.

I am, Sir, with the greatest respect, your's, &c.

Brightelmstone,  
13th June, 1804.

P. Y.

# ON THE SIZE OF FARMS, IN ANSWER TO A LANDLORD, AND AGRICOLA NORTHUMBRIENSIS.

*To the Editor of the Agricultural Magazine.*

SIR,

THE great error in our strictures on particular arts and sciences, is that we abandon the common principles that are applicable to all of them, in order to favour some particular theory which we conceive to be referable only to one department to which we have directed our study. The fact is, that whether the question relate to law, physic, or divinity, to navigation, commerce, or agriculture, there are some leading principles which are generally admissible, and indeed to every subject on which the human mind can be employed. Persons of a contracted education, and local habits, are particularly exposed to this error: they imagine, that the object of their immediate pursuit is governed by particular laws, which are appropriated to no other circumstance or situation whatever. From this fallacy, Sir John Sinclair, your correspondent Agricola Northumbriensis, and a thousand others, have supposed, that the interests of agriculture required farms of certain restricted dimensions, by extending them beyond which the interests of the landlord, of the tenant, and of the state, would all be surrendered. I am very fond, Sir, of resorting to the most familiar illustrations, because they are not only to the level of my own capacity, but are accommodated to the major part of your country readers. On the question of the size of farms, it is most obvious, the design is, to consider those proportions which are

calculated to bring the country to the highest possible state of cultivation. What is it in the occupations of trade, that is found by experience to be the most important consideration? It is that the capital of the adventurer be equal to the advance required. Embarrassment and ruin are much more frequently the consequence of a deficient capital, than of an unproductive trade; to raise one hundred pounds by a necessitous man, often requires more time and exertion, than to gain the same sum by a wealthy tradesman, the pressure of debts occasions the manufacture of bills, which is nothing but an association of the needy to suspend their own destruction; their credit is clothed in these rags for a while, but their nakedness and poverty are soon exposed. What is true in regard to trade, is equally correct when referred to agriculture, and the defective produce, and tardy improvement of the country, is rather to be attributed to the deficiency of capital, than to any other cause; a disadvantage arising from the inferior rank the cultivators of land are assigned in society by popular opinion in this great commercial nation.

Those who are immediately connected with the annual produce of the land, may be distinguished into two classes; the first is that of landlord, the second that of tenants; or of proprietors, and cultivators. The former contributes to the produce by edifices, drains, inclosures, and other permanent improvements. The latter in the instruments of husbandry, in the stock of cattle, in the seed, and in the maintenance of his labourers employed, whether human or bestial.

We are correctly told, that part of the produce of the land which remains to him after paying the rent, ought to be sufficient, first, to replace to him within a reasonable time, at least during the term of his occupancy, the whole of his original expences, and also the ordinary profits of stock; and, secondly, to replace to him yearly the whole of his annual expences, together likewise with the ordinary profits of stock. These expences are two capitals, which the farmer employs in cultivation, and unless they are regularly restored to him, together with a reasonable profit, he cannot carry on his engagement upon a level with other employments; but, from a regard to his own interest, must desert it as soon as possible, and seek some other occupation. Yet farmers are so little suited to the active duties in the busy haunts of mankind, that they more commonly, under these circumstances, resign all activity, and descend into the vale of poverty and misery. Hence it appears that too extensive a concern, in proportion to the capital, is ruin. Your correspondent, who signs himself "A Landlord," says (page 361) "It is, however, evident, that the size of the farms ought to be relative to their situation, to the state of the markets, and agriculture

of the district, as well as to the soil." I see no occasion to quarrel with this position, but your readers will discern, that all this in fact refers to the great principle of capital from the relative situation of farms, from the state of the markets, from the agriculture of the district, and from the condition of the soil, different proportions of capital will be required.

Under these views, the first object of every prudent landlord on letting his farm, should be to ascertain whether the capital of the person proposing to be his tenant, be competent to the culture of the land to be occupied. "A Landlord" is perfectly right, where he intimates, that the condition of the soil varies the power in labour, and money required for its management. In some countries a capital of 5l. an acre will be sufficient, when in others, double that sum would be incompetent to the purpose. I have never supposed, that any criterion with respect to the size of farms, could be ascertained from the supposed extent of ability of one master to overlook a concern of particular dimensions. I boldly affirm, that a farmer is as capable of conducting 10,000 acres extent, as of 100 acres. I mean that with the view of the ordinary powers of man, no such criterion can be assigned. I have assumed a comparison between the concerns of trade and agriculture, and I will apply it here. What a frivolous engagement would 10,000 acres be, compared to the gigantic interests of the merchants of London, and until lately of Amsterdam, with the four quarters of the globe; or when placed in competition with our great breweries and distilleries, depending for their success on the most curious processes in chemistry, and involving a capital in some instances of two millions sterling. From this view of the capacity of man, when applied to any object with which his interests are connected, I am not at all surprised at the information of Agricola Northumbriensis, when he places in contrast the lessees of the Duke of Northumberland, and of those of the Earl of Tankerville, and Sir Henry Grey; the former in small farms, the latter in large ones; the former increasing in value only one-fourth, the latter one-half, within a space of time not much exceeding fifteen years. Part of the success of the latter is attributed to the security of leases for twenty-one years, whereas the former is let to annual tenants, continuing indeed on the estate from the generosity of the lessor, but not possessing that "security" on which extensive improvements are founded. I mention this, as a material feature in the question, that A. N. who is a staunch advocate for large farms, may not draw a precipitate conclusion from the situations of the three estates to which he has adverted\*.

\* It is easy to collect, from various letters that have appeared in your miscellany, the animation with which A. N. both feels and writes. In the



Those who have considered the subject of the size of farms, have done it in two points of view; 1st, as affecting the public; 2dly, as operating on individuals. I am yet ignorant of the evil which would arise from the whole of the country being either exclusively in large or in small farms. The whole question appears to me to turn upon the resolution of this doubt: by which of these the produce of the soil of the nation would be most abundant. For which ever would produce this abundance, would afford to the people the greatest quantity of employment, and the largest means of subsistence. I must again recur to my favourite argument from analogy: the source of the commercial prosperity of this country is the freedom with which trade is permitted to expand itself on every side\*. This has not been permitted in agriculture; sometimes from the avarice, at others from the envy of landlords, but in both cases from mistaken views of their own advantage. The pride of our great proprietors is sometimes wounded, while they are exposed to debts or embarrassment in the capital, and their lessees are rising into importance on the patrimonial estate. They see with mortification the prodigious success consequent on prodigious talents and well directed industry in their talents, and their passions will not admit them to endure a rival in prosperity and reputation where their lordly ancestors have ruled without controul. Such is human nature, and these defects are to be considered among the most formidable obstructions to the improvement of the country. In trade, men are permitted to roam at large, and to suit the reach of their occupation to the extent of their capital. In agriculture, this discretion is withdrawn, and hence we are constantly observing a wealthy farmer attached to a contracted estate, and an extensive territory in the hands of a needy adventurer. God and nature have appointed that, both in the physical and moral world, success and improvement should depend on the freedom enjoyed, and whenever human prejudices and political institutions interfere with this principle of universal liberty, the consequence will be, the benevolent designs of God and nature will be obstructed. Agriculture, like trade, if left to itself would find its own

paper to which I am now referring, he hastens from the miry soil of agriculture to the more dirty field of politics, and detains himself to compliment that "inflexible and able patriot, the celebrated member for Northumberland." I do not object to this warmth, I perhaps admire and venerate the man who feels it, but I have been extremely concerned to see it exposed without discretion by your Norfolk and Northumbrian friends.

\* This remark must be received with a few of Selden's "grains of allowance." Your curious readers may inform themselves on this subject by a reference to the concluding part of the third chapter, book the fourth of Adam Smith's *Enquiry into the Nature and Causes of the Wealth of Nations*,

level, and like those expansive rivers by which the earth is renovated, would diffuse luxuriance over the globe, but if confined and contracted in one place, it will accumulate in irregular proportions in another, and the progress of improvement from which man is to derive the amelioration of his condition, will be obstructed. The effect of the system of agriculture being thus cramped within unnatural limits, is weekly heard in the market-place, and read in the gazette, and it is not less evident in the public jails of the kingdom, where many a haughty landlord finds more reason to lament the impolicy of his steward, than the extravagance of his vices.

But some timid writers apprehend the monopoly of farms. Is this monopoly feared in our trade, manufactures, and commerce? Are any public restrictions imposed to prevent such monopoly? Even in the essential articles of subsistence, no maximum in price is admitted, because, by profound statesmen, it is considered most of all dangerous where some dabbling politicians deem it to be most of all necessary. The monopoly of the produce of the earth on our favoured and exuberant soil is not practicable. The materials for our manufactures very often depend upon foreign supply; the articles of agriculture are from the earth on which we tread, they are produced from it by a continual miracle; and, notwithstanding the national pride in our rustic improvement, almost every acre of our territory could be made ten times more productive.\* Whatever fears then may be indulged by the weak, whatever enterprizes may be projected by the powerful, whatever doubts the theorist may entertain of monopoly in commerce; in agriculture there is an end to every anxiety about it, and the most wary will acknowledge it to be impossible.

I will now conclude, Sir, with referring you to the principles with which I commenced. It is our contracted habits and local prejudices which lead us to wrong views on this subject. The analogy I have attempted to expose will restore us to truth and reason. As in commerce, so in agriculture, no fixed boundary can be assigned to the warehouse or to the farm; the one and the other must be in proportion to the nature of the commodity and the capital employed, and according to these circumstances may be confined to a box or a garden, and extended to a town or a province.

#### AGRICOLA MERIDIONALIS.

\* The account we have received of the produce of extensive districts in China is not a little mortifying to British arrogance.

## ON THE CULTIVATION OF POTATOES.

*To the Editor of the Agricultural Magazine.*

SIR,

June 1, 1804.

**I**N March last I proposed to have sent you a paper on the cultivation of potatoes; I did not, however, recollect my intention when I inclosed you some papers on other subjects, nor did I think of it again till I read Mr. Bartley's intelligent communication (in your April number) on the culture of that useful esculent.

According to that gentleman's letter, potatoes may be planted with success in July, I therefore send you an extract from my minute book, for insertion in your next magazine, and hope that this or next year, some of your readers who have sufficient leisure, will pursue my experiment in such a manner as fully to demonstrate the most beneficial mode of using the potatoe for seed.

"On the 23d of May, 1803, I planted a small quantity of very light poor gravelly land, *all alike in quality and condition*,\* with potatoes and their shoots, in the following manner.

No. 1, with shoots a foot asunder in the drills, and intervals of two feet.

No. 2, with cuts a foot from each other in the rows, and intervals of two feet.

No. 3, with whole large potatoes, intervals and distances the same as above.

No. 4, with ditto, ditto, ditto, ditto two feet, distances in the rows 18 inches.

No. 5, with ditto, small and middling sized potatoes, intervals and distances the same as No. 4.

The seed was taken from a stock of potatoes raised in the preceding year from the cuts of a large and pretty round formed variety, in colour white, except a small part at one end of a reddish colour.†

The shoots were obtained from a part of the same stock, which (a few weeks before) were laid on horse-dung and lightly covered with earth. The time of planting was three weeks or a month too late for this climate. The succeeding weather was uncommonly dry, scarcely a single shower of rain having fallen in this quarter between about the beginning of June till near the middle of September. From this impropitious weather and the natural avidity of the soil, the plants were much injured, and many died, especially from the cuts. Those

\* It produced a crop of turnips, in 1802, after dung and lime, but received no manure for the potatoes.

† Provincially, "red-nebs."

shoots which had *leaves* at the time of planting, grew more vigorously than those which were *then* only in the white state, a considerable part of the latter having been much injured or destroyed by mice. The plants were "earthed up," and the ground twice hoed in the course of the summer. In November, the potatoes were all taken up, and accurately weighed. The produce was as under.

	st.	lb.	sq. yds.	lb.
No. 1, at the rate of 259 8 <i>per acre</i> * of 4840				14 to the stone.
— 2, do.	261	6	do.	do.
— 3, do.	331	1	do.	do.
— 4, do.	324	5	do.	do.
— 5, do.	389	0	do.	do.

A poor crop! a humid summer would undoubtedly have greatly increased the produce, particularly that from the "cuts." For two or three weeks after their appearance above ground, the plants from the latter seemed as healthy and luxuriant as those in any of the other numbers, but afterwards became more weak than the rest. Nos. 3 and 4 produced the greatest *number* of potatoes; they were, however, especially on the former, generally much smaller than those raised in the other modes. I am inclined to think, that if the shoots had escaped the depredations of the mice (which would probably have been the case if they had all attained the green leaf at the time of planting) their produce would have *greatly* exceeded that in No. 2. Various hypotheses have been advanced, relative to the cause of that baneful disease *the curl in potatoes*; and some having asserted, that it arises from damage received by the seed, I planted, in Nos. 3 and 4, several *whole* potatoes, which by exposure to unfavourable weather in the preceding winter or spring, had become green or blue at the ends; but no curled plants appeared, and those which sprung from the damaged, seemed as healthy as any from the sound potatoes."

At some future period, Mr. Editor, perhaps I may offer to you some remarks on this comparative experiment. At present, I shall only observe, that we can rarely deduce proper conclusions from a single experiment, and that if I am right with respect to the prolific powers of the shoots, the use of them instead of "cuts," may be considerably beneficial, especially to the poor, in years of scarcity.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS,

\* The potatoes weighed 3 st. 9 lb. 14 oz. per Winchester bushel.

## ON THE PRICE OF CORN AS AFFECTED BY THE EXISTING LAWS.

*To the Editor of the Agricultural Magazine.*

SIR,

June 2, 1804.

A T page 241 of your 57th number, Mr. Bartley says, "the legislature with the purest and most benevolent motives, have interposed regulations to preserve an equitable mediocrity between the growers and consumers (of corn;) nevertheless, we experience the extremes of too high and too low in alternate succession." This is unfortunately too well founded, and every man who has, either as a merchant or a farmer, attended to the prices of corn in this kingdom, for the last 8 to 12 years, will long remember the great and injurious fluctuations which within that period, have taken place in our markets. It is extremely desirable that such measures were pursued, as would render our markets, for the most necessary article of human subsistence, much more steady, at *prices adequate to the greatly increased expences of farmers*, for without such measures, we may look in vain for constant and adequate supplies of corn. This seems consistent with reason and common sense; but, Mr. Editor, it is unnecessary to employ much reasoning on the subject. To illustrate and confirm the truth of my position, we may appeal to experience. We may adduce the state of commerce in its other branches—and thus prove, that constant and adequate supplies cannot be obtained but when those who bring them to market experience a constant demand at adequate and tolerably steady prices. In another part of the same page, Mr. Bartley says, "to some persons it may appear to be an extraordinary observation, but I consider the present low price of wheat to be a matter of regret. It is an *extreme*, oppressive to the cultivator, and which at no very distant period will be apt to beget its *opposite*—both alike injurious to the permanent interests of society." I agree with him, but many, I know, will contend that five to six shillings a bushel for wheat, would leave a profit satisfactory to all descriptions of men, but the "greedy and ras—l—y farmers." Such persons, however, know not the necessary expences of cultivation, or they would be convinced, that from 7s. 6d. to 8s. 6d. per bushel, would not (on an average of years) leave a profit of ten per cent per annum on agricultural capital. Many of these persons, however, though ignorant of agricultural *expences*, will understand and enjoy mercantile and manufacturing *profit*. Would they be satisfied with a gain of 10 per cent. per annum? Do they not generally receive from twice to quadruple that profit, and in many cases much more? If these persons possess not agricultural information, they possess common sense, and nothing more is required to enable them to perceive the necessity of giving encourage-

ment to that art *above all others*, by which human subsistence is produced; and when they compare the feelings and sufferings of the farmers of Great Britain, under the *extreme* pressure of their present burthens, with those they would themselves experience were their profits reduced from 40l. to 0l. or even 10l. per cent. per annum, they will probably discover that that most important act is extremely and most injudiciously repressed, instead of being promoted.

A few months ago I stated, in answer to the remarks of your Norfolk correspondent P. J. on the unfortunate circumstances of farmers, that I was not so sanguine as that gentleman as to their being speedily and effectually relieved by legislative regulations; and though the petitions from Norfolk, Suffolk, and a few other counties, have induced the House of Commons to take the corn laws into consideration, I am still of opinion, that the commercial preponderance in the senate, will operate against *effectual* relief being extended to the growers of corn. I heartily wish P. J.'s expectations may not be disappointed, but in such matters it is generally right to judge of the future by the past. In favour of his ideas, some strong facts may now, indeed, be urged by the landed interest, which, perhaps, could not be advanced on former occasions, namely, that within the last ten or fifteen years, the wages of the labouring class have been increased upwards of 100, and in many parts of the country upwards of 150 per cent. while those of corn have (excluding the late years of dearth) increased but little; that so far from the great and rapid increase of the price of labour having (as the advocates of the commercial system contend) injured the trade of the country, by enabling foreigners to undersell our merchants, our annual exports have increased upwards of ten millions sterling; that that increase of the exportation of British goods has been most rapid, when labour was at the highest, or nearly the highest, rate; that high wages and cheap provisions have operated against industry and morality; that farmers are not like other subjects, taxed according to their income, but in a much more oppressive manner, their rents being taken as the criterion of income, and they are therefore obliged to pay five per cent. upon three-fourths of these rents, whether they have any income at all, and even when they are losing greatly by their farms, &c. &c. If, however, it should be proved in the end, that these circumstances have operated in favour of the landed interest in the revision and alteration of our corn laws, I apprehend we shall clearly perceive that their influence has been *too small*. The important question, whether a constant supply and adequate price of corn, would be best obtained in this kingdom by a free import and export, as well as inland trade, or by one under legislative restrictions, in-

volves not only the most effectual mode of obtaining the first article of human subsistence, but the support of our agriculture, the improvement of our lands, the increase of our population and national strength, and the happiness of the country. Many powerful advocates have ranged themselves on each side—at the head of those for a free trade, stood the celebrated Dr. Adam Smith, and undoubtedly the opinion of so eminent a man—a man who so fully understood and wrote so ably on the nature and causes of the wealth and power of nations, and who, in opposition to the opinion of government and almost the whole British empire, *foretold* the advantages which would result to this country from losing the *monopoly* of the North American trade,—is entitled to great respect. Great men, however, *sometimes* err, and doubts are entertained by much the greatest number of our landholders and legislators, whether the opinion of this distinguished writer could be safely acted upon under the *peculiar* circumstances of this country; though, perhaps, many of them believe that his principles might be advantageously put in practice, were these circumstances upon a level with those of the countries from which foreign corn is received into our ports. It has pleased Providence to bless this country with a form of government, under which life, liberty, and property, are much better secured than in any other on the face of the globe. The consequences of such ample freedom and protection, have been the accumulation of much greater wealth and power than those possessed by any other nation. Some, indeed, may dispute respecting her *power*, but the vast superiority of her *wealth* is universally acknowledged, and the countries from which we receive our supplies of foreign grain, namely, Prussia, Russia, and the northern parts of Germany, but especially the Polish provinces in the former country, are more inferior to her in this respect than some other parts of Europe. The constant concomitants of a flourishing commerce, and wealth and power, are, and always have been, great consumption, high rents, high prices of labour, &c. &c. The contrary have always appeared in countries destitute of freedom, of an extensive and flourishing commerce, and of wealth. In those foreign countries, the rents of land are generally about one-fourth to one-third of those in Great Britain, and the price of labour in the same proportion. They are untithed, and (compared with ours) untaxed. Except from the Dutch, and a trifling opposition from Spain and Portugal, our merchants have no competitors in the great corn markets of the north, the voyage to which is *short*. Thus we discover a great difference between the circumstances of this country, and those of Russia, Prussia, &c. &c. and the reasons why our landholders and agriculturists are so ex-

ceedingly alarmed at the idea of a free trade in corn †. It was deemed the best policy to attend to the suggestions of both parties—of the agricultural and commercial—and to adopt such measures as seemed calculated to keep the price of the first article of necessity at such a pitch, as to promote the agriculture and improvement of the country without checking our manufacturing and commercial establishments. With this view, duties, which amounted to a prohibition, were imposed on the importation of wheat, when the prices in our markets exceeded certain limits, and when they were too low, a bounty was granted on exportation. An important alteration was made in the corn laws in the reign of King Charles the Second, when, says Dr. Adam Smith, “the importation of wheat, whenever the price in the home market did not exceed 2l. 13s. 4d. the quarter, was subjected to a duty of six shillings per quarter; and to a duty of eight shillings, whenever the price did not exceed four pounds” (about 4l. 16s. of our money). He also says, “the importation of other sorts of grain was restrained at rates, and by duties, in proportion to the value of the grain, almost equally high. Subsequent laws still increased these duties.” From about the middle of the seventeenth century, down to 1688, the average price of wheat was nearly forty-five shillings per quarter, our agriculture was in a flourishing state, aration and improvements became more extensive, greater quantities of corn were produced, and a good deal was exported, a bounty of five shillings per quarter having been granted on the exportation of wheat, when its price was under forty-eight shillings per quarter. These beneficial regulations were suspended in 1757, and in 1773, material alterations were made. Importations of wheat were then permitted on a duty of sixpence per quarter, when the home price was forty-eight shillings, and exportation prohibited till the price was below forty-four shillings, when a bounty of five shillings a quarter was granted on exportation. By the act of 1791, (now in force) the importation of foreign wheat is permitted on a duty of 2s. 6d. a quarter, when the home price is 2l. 10s. a quarter; and at sixpence, when that price rises to 2l. 14s. Exportation is prohibited till the price is under

† Even Dr. Adam Smith has admitted, that “if importation was at all times free, our farmers and country gentlemen would, probably, one year with another, get less money for their corn than they do at present;” but “that the money which they got would be of more value, would buy more goods, of all other kinds, and would employ more labour. Their real wealth, their real revenue, therefore, would be the same as at present, though it might be expressed by a smaller quantity of silver; and they would neither be disabled nor discouraged from cultivating corn as much as they do at present.”——To such a revolution, I believe, our landholders in general are exceedingly averse; and it would be ruinous, if not unjust, to those farmers who have engaged their farms for a term of years.



2l. 6s. and when it is under 2l. 4s. a bounty of 5s. a quarter is given. So that our legislature have thought it right, within the last thirty-one years, to reduce the price for regulating the admission of foreign corn, considerably below the limits fixed in the reign of King Charles the Second. The commercial interest has unquestionably increased greatly within the last hundred years; I am decidedly of opinion, however, that the advocates of the mercantile system have proceeded upon erroneous principles, and that if the ideas which prevailed about the year 1670, with regard to the importance of *preferring* measures for the encouragement of agriculture, had continued to guide our legislature, we should, at this day, have enjoyed a still more beneficial and extensive commerce with the superior advantages and security of having it protected by a population greatly exceeding twenty, instead of sixteen millions †, and by a greater proportion of the *hardy* and *virtuous* sons of the plough. In spite of the obstacle of tithes, many, many more of our dreary wastes and heathy mountains would have been converted into fruitful fields, but till that obstacle is removed, we may vainly expect such a salutary change on a great part of that species of land. "Shall the (corn and) tithe laws repress the energies of man, keep the produce of the earth down to a quarter of what it is capable of, and blight our population, &c.? Forbid it, ye legislators! forbid it, all ye powers of heaven!" ‡ To prevent a recurrence of the evils we have experienced, to increase aration, and to promote the improvement of a very considerable part of our moors and waste lands, it seems necessary to prohibit the importation of foreign wheat, at the low duties, till our own rises to about 3l. 4s. to 3l. 10s. per quarter, and other sorts of grain in proportion; and to grant *large* bounties on the exportation of corn, when wheat is under fifty-six shillings a quarter. Then would the British agriculturist (in all probability) meet a constant demand for the produce of his ground at adequate and more steady prices. Such ample encouragement would *then* be offered, that, in a short space of time, our own produce, except in unfavourable seasons, would be equal to our consumption. In some years there would be an excess. It should never, however, be suffered to fall too low in price, bounties should be applied with a *liberal* hand, and I cannot conceive a more advantageous application of a part of our immense public revenue, than in thus effectually promoting the improvement, happiness, and power of the country. These bounties would amount to a large sum. That amount, however, would appear very small, when compared

† In Great Britain and Ireland.

‡ Mr. Middleton on Tithes, except the words (*corn and*).

with the sums lately paid for foreign corn &c. Besides, we should have the satisfaction of knowing that they were applied for the laudable purpose of promoting our own agriculture. As the corn laws and some fiscal regulations relative to malt, beer, and spirits, (without which the culture of barley would probably be greatly diminished in many parts of the country) will soon be investigated by the legislature, they present themselves as fit subjects of discussion in agricultural publications. I lament my inability to do them justice, and hope one, or both, will be taken up by some of your abler correspondents. As Mr. Bartley is a gentleman of acknowledged ability, standing in the honourable situation of Secretary to the first Agricultural Society in the kingdom, I regret that he has not communicated his sentiments more fully.

I am, Sir, your's, &c.

AGRICOLA NORTHUMBRIENSIS.

QUANTITY OF SEED PER ACRE, COMPARATIVE HUSBANDRY  
OF NORFOLK AND NORTHUMBERLAND.

*To the Editor of the Agricultural Magazine.*

SIR,

May 30, 1804.

IN former letters to you, I requested information respecting the proper quantities of seed-corn for the various kinds of land, and as you have not published these enquiries, I have again to beg that you will endeavour to spare a corner of your valuable miscellany for so troublesome, but anxious a correspondent as I am. I cannot, like many others, appear under a favourable dress, and have therefore, perhaps, been too much over-looked by your enlightened contributors; but you and them may rest assured, that such enquiries and observations as I have made, are not viewed with indifference by many practical farmers who read your excellent work, and that they will be reiterated in some shape or other, till I be so fortunate as to attract the notice of those who will condescend to favour me with ample and intelligible instruction. It is unquestionably of great importance for farmers to be thoroughly informed as to the quantities of seed most advantageously applied to the different species of soils; and I am sorry to say, it is a point upon which there is great difference of opinion, and upon which I have been unable to obtain complete instruction and satisfaction. Your correspondents, *Agricola Northumbriensis* and *Norfolciensis*, seem to be of opinion that poor soils and those of inferior quality, should receive a greater quantity of

§ Within two years, ending in 1802, these sums amounted to near twenty millions sterling, including bounties.

seed than those which are rich and good, and I find that opinion supported by some practical farmers whose judgment is much respected. There are others, however, equally respectable, who entertain a contrary opinion, and I should be very glad to see the subject fully discussed in the *Agricultural Magazine*, more especially if the results of accurate comparative experiments can be adduced in support of argument and observation. It has been recommended to me to make experiments of this nature, and I highly approve of such a mode of acquiring knowledge; but, Mr. Editor, I wish for *early* information, and am anxious to profit by the experience of others. Besides, an unexperienced farmer cannot, I apprehend, make trials with the necessary judgment and exactness. The Board of Agriculture, the Society of Arts, &c. and many Agricultural Societies in the kingdom, annually offer premiums for the best comparative experiments in the culture of wheat, turnips, &c.; but I have observed, that much difference of opinion exists as to the trials these Societies require. For while some practical farmers of great judgment and experience, assert that they are right in requiring that the experiments shall be conducted on six or eight acres of land *for each article*, others, whose characters for agricultural knowledge are as firmly established, contend that they should be conducted on a much smaller scale; that on the above quantities of ground the necessary accuracy cannot be observed, and, consequently, (as the results of experiments are more likely to influence the practice of husbandry than arguments or theory) that trials *to that extent*, are detrimental instead of being beneficial to the community. Now, Sir, this also appears to be a momentous subject, and it would probably afford much pleasure and advantage to see it taken up, and amply investigated by some of your intelligent correspondents; permit me, therefore, to request their attention to it. One or two other important subjects and I have done *for the present*; for though I have a good deal more to say to you, I fear, that by stating much at a time, I shall exhaust your patience, or take up too much of that room in your Magazine which you devote to such communications as mine.

In your number for December last, there is a long letter from A. Northumbriensis, in which a new mode of cultivating turnips is described. In succeeding numbers, that subject has received farther investigation by that correspondent and your friends in Norfolk. One of the latter, (P. J.) who perhaps brought forward the discussion, by asserting the superiority of the Norfolk farmers in the culture of turnips, *at first* declined to answer the arguments of Northumbriensis, but afterwards *asserted*, that "he would not yet give up the claim of the Norfolk farmers to superiority in the management of the tur-

nip crop." As this *assertion*, however, was not accompanied by proof or arguments, I confess, Sir, that I was beginning to wheel round, and to look towards the north for superiority, when all doubts on the subject were removed by the candid and able confession of A. Norfolciensis in your last number, which seems to establish the superiority of the northern mode of cultivating turnips. In making this confession, however, I remark, that Norfolciensis has used the words, "*on that score*," by which, I presume, he wishes your readers to infer, that the *general husbandry* of Norfolk still retains its once acknowledged superiority, not only over that of Northumberland, but over that of every other county in the kingdom. Which of these counties stands at the head of British agriculture, is, on the score of personal ambition, perfectly indifferent to me; my object is, to endeavour to discover truth, and to promote such an investigation as may unfold to my brethren in every part of the kingdom, the most advantageous modes of cultivation. With this view, I must remark, that Agricola Northumbriensis has enlarged on the management of light soils in Northumberland; that he has stated some strong facts in support of his arguments; that his opinions, respecting the rotation of crops, and time the land should be under grass, are, in a great degree, corroborated by the writings of the Rev. Mr. Close, and your correspondent Chorographus; that he has *condemned* the course of crops and interval in grass, which the Norfolk farmers prefer on similar soils, and that something more than *mere assertion* will be required from P. J. and A. Norfolciensis, to remove the impression made by your Northumberland and other correspondents, which indubitably tends to overthrow the basis on which the superiority of the Norfolk agriculture has hitherto rested. Agricola Northumbriensis has likewise aimed a severe blow at the Norfolk sheep, and the practice of "sheep-folding." He has, at the same time, advanced a good deal in favour of the Northumberland sheep, and as it is very important for farmers to be fully acquainted with the best and most profitable breeds of live stock, I should see, with great pleasure, more communications and discussions on that subject, in your publication, particularly as to the criterion of superiority, and the most proper and easy modes of discovering it. Being in the occupation of some light land, I feel considerably interested in those discussions in your work which relate to the management of that species of soil; and though I have been taught to look towards Norfolk for the most perfect husbandry, I must own that the letters of A. Northumbriensis have made an impression on my mind rather in favour of the northern rotation, &c. and that, *at present*, I am not inclined to believe that the Norfolk farmers stand at the head of British agriculturalists.

But, Sir, as I am but A Novice, my opinion will have but little weight, but I wish to inform Agricola Northumbriensis and P. J. that it is founded upon that entertained by a few experienced and respectable husbandmen in my neighbourhood, who conceive that much able argument and many strong facts are now necessary to prop the tottering reputation of the cultivators of the county of Norfolk. Yours, &c.

A. NOVICE.

P. S. If it is not too great a condescension in so distinguished an agricultural author as your correspondent Mr. Middleton, to attend to *A Novice*, I should be extremely obliged to him for a little further information as to one article in his course of crops in your 46th number, namely, what time the winter tares should be sown, and what quantity per acre? at what time they are fit for cutting? whether he has seen much "medium loam" sufficiently well cleaned and reduced after them so as to be fit for sowing in June or beginning of July with turnips? whether the latter crops are generally productive, and whether the tares withstand the severity of frosty winters? This subject, I think, deserves great attention. Two good crops within a few months would, in themselves, be a vast acquisition, besides the great increase of manure.

#### MEANS OF DIFFUSING USEFUL KNOWLEDGE AMONGST FARMERS.

*To the Editor of the Agricultural Magazine.*

SIR,

June 4, 1804.

I HAVE been engaged for a great number of years in practical husbandry, to which I am, both from principle and interest, much attached. I have, for a considerable time, read your Magazine with much pleasure and advantage, and am happy to see it so well supported by many intelligent correspondents, more especially as some of them have adverted to the importance of well-conducted comparative experiments. For though I am far from condemning scientific descriptions, and discarding argument and theory, yet I must contend for the superiority of such trials, and most heartily wish that argument and theory were more generally upheld by such tests of truth, and that proper experiments were more frequently made. But it is a lamentable circumstance, Mr. Editor, that when we, sons of the plough, once get upon a track which others have long pursued, and in which we find that we can obtain pretty good crops, we never even think of varying our practice, of endeavouring to obtain a still greater produce, of lessening our expences, or of making an experiment or two on a small scale, which would be attended with but little

trouble, and no expence. No, Sir, instead of pursuing a rational a course, we are generally prejudiced in favour of the old custom, and when an advance of rent or some other circumstance renders the balance on the creditor side of the farmer's book too small, we often whine, and tease our landlords for an abatement of rent, or an acquital, at a time when such a pressure should stimulate us to greater exertions, and to endeavour to discover more beneficial modes of management; modes which might enrich ourselves, benefit our landlords, and increase the happiness, prosperity, and power of our distinguished country. Under this view of the matter, your Magazine seems a most important publication, for it is well calculated to disseminate the results of experiments throughout the kingdom, and to diffuse agricultural knowledge of every kind. Your undertaking is, therefore, highly laudable, and demands the warmest support of every British and Irish patriot, and in a particular manner of our landlords. What but the want of such publications formerly, could account for a tolerably perfect system of husbandry in one county, while others, within 30 or 40 miles, were managed under the old, unprofitable modes? Nay, in some, at this day, we may discover something of this nature. What is the reason? Why either the hands of the farmers are tied up by covenants of leases prescribed by ignorance, or they do not know what is passing in other districts. Perhaps they do not even know that such a useful work as yours is published; you should, therefore advertise and describe it in the provincial papers, and here it may be in point to remark, that I think you should hold out still greater encouragement for practical agriculturists to communicate to you (for publication) the results of their accurate observations, &c. You should *hint*, that you would occasionally add a word or a letter *here*, and strike out one *there*, to supply our want of knowledge in writing, and put us into a better dress, &c. &c. Real and advantageous agricultural knowledge cannot be attained but in the field of industry; and many important facts are lost to the community from the want of circulation of agricultural periodical works, and the dislike, and often inability, of farmers to communicate their sentiments in writing. Some facts have appeared which it seems of consequence to mention: a few farmers got so far out of the beaten track as to make small experiments: on the adjoining ridges or lands the crops under different management *appeared equally* luxuriant and good, the old mode therefore was pursued; more accurate trials, however, were at length made, the produce was then carefully weighed or measured, and a very considerable difference discovered in favour of the new modes. I mention this to shew, that experiments should be *completely* made, and that if great accuracy and knowledge are not employed in con-

ducting them, they may readily mislead, and produce consequences ruinous as the wildest theories.

Your constant reader and a warm friend to agricultural periodical publications,  
ARATOR.

## AGRICOLA NORTHUMBRIENSIS, IN REPLY TO AGRICOLA NORFOLCIENSIS.

*To the Editor of the Agricultural Magazine.*

SIR,

June 14, 1804.

**I**N your last number, Agricola Norfolkciensis addresses you in these words:—"Sir, had I been blest with half the assurance that my Northern Censor possesses, I would have made each topic the subject of a long, very long letter. I would have dispatched one, two, three of them as fast after each other as I could have scribbled them; or, had I fortunately conceived but half so good an opinion of my own abilities and knowledge as A. Northumbriensis certainly entertains with regard to himself, I would never have condescended to ask questions for information's sake of any one. No, Sir, scorning such mean indignity, I would assume the office of Preceptor-general to all the agriculturalists in Great Britain. I would tell them, in the most peremptory stile, that my native country was the only spot in which farmers knew any thing, and that I was the most intelligent of them."

After this, Mr. Editor, who will doubt the towering and aspiring spirit of Agricola Norfolkciensis? Sincerely thankful am I, Sir, that my ambition is of a much more humble nature, and that, notwithstanding the "assurance," &c. he has so liberally imputed to me, I have not been so imprudent as to make the most distant attempt to place myself in so elevated a situation as that he confesses *he would have assumed*; for knowledge and talents infinitely greater than mine would have been expected in a person in so exalted an office. Sensible of this, and conscious of my inability, I would have turned with indignation from the *offer* of so great and honourable a station. How different is the conduct of Agricola Norfolkciensis! Couple his declaration (in the above quotation) with his having *prescribed* to A. M. and I the manner in which we must proceed if we renew the controversy respecting horses and oxen, namely, that we must advance "more matter of *fact* and less *argument*," and there will be reason to believe that he has already *assumed* the office of "Preceptor-general," and consequently that he has a "good opinion of his own abilities." Where are his proofs of the opinion, he says, I entertain "with respect to myself?" He has, I presume, no means of judging but from my letters in your Magazine; and it has happened rather unfortunately for him, that, in the very page confronting that in which he has *asserted* the opinion he says I entertain of my own talents, that

I have acknowledged my *inability*. It is lucky for me that this stubborn *fact* is placed opposite to his *assertion*, and it will, I hope, remind your readers of several confessions of a similar nature in my other communications. But probably he will say—has not this Northumberland farmer had the “assurance” to oppose the opinions communicated by several of your correspondents, and also those of our great agricultural writers, Messrs. Laurence, Close, and Amos? If this “assurance” is a crime, I am guilty. I humbly conceive, however, that the correct description given by Norfolkensis (at page 337 of your last Magazine) of the nature and design of your publication, will prove my *innocence*. Will that gentleman never “cast the beam out of his own eye?” Has he forgotten that he has himself communicated opinions very different from those expressed by several of your correspondents, and that he has condemned those of the very authors I have named, and of the celebrated author of the Agricultural Survey of Middlesex? Can he lay his hand upon his heart and say, that *all* his letters may be exhibited as patterns of diffidence, modesty, and a conciliating manner? Will he say, that none of them contains evidence of his attachment to something like that “peremptory stile” which he informs us will be adopted in discharging the *duties* of his new office? He says, “I have no reason to think that I either wrote in ridicule or censure of the controversy,” (respecting horses and oxen). What! not ridicule or censure, to state “that A. M. and I had worked our horses and oxen to the bone in the dreadful contest for superiority; that we had left the matter where we found it; that we had introduced much irrelevant matter; that we had *wasted* our time and paper, and taken up much of that room in your collection which might be filled with more valuable matter, and that he wanted *information* for his eighteen pence?” Did he imagine that these censures would pass me without observation, because, in passing his “fiery ordeal” he thought my trial less severe than that of Mr. Middleton, whom he *promoted* from the walks of the profound rural and political economist to the theatrical stage?

I have *not* said that the matter in Norfolkensis’ letters of March and October last was a farrago of poor stuff, not half so entertaining as the little scrap of politics you give us at the end of each number, I have only *hinted* what I conceive others would have said, if that matter had not been the production of *kindred brains*; namely, that it was improperly arranged, or that it contained “much irrelevant matter,” and I ardently hope it will be recollected, that I neither gave these *hints*, nor interfered at all, till after he made the *first* attack. Then, Sir, I deemed it necessary to retaliate, to state the *facts* as they occurred, and to remind him of a leading precept of Christian morality. I conceived that the conse-



quences of my remarks would be favourable to your Magazine, and the great cause of agriculture, in preventing such improper and unprofitable attacks as that I resented, and I entertain sanguine hopes of being acquitted before the tribunal of your readers. If, however, contrary to my expectation, they should deem the conduct of *each* party in the controversy *censurable*, I sincerely hope that both will pursue a more agreeable course in future. If Norfolkensis should deem it proper to "*dispatch* you one, two, or three letters" for each Magazine, I would advise him not to "*scribble*" them, to recollect his consequence, and that much more will *now* be expected from him than from a common farmer.

I am glad that Norfolkensis "is fond of accepting challenges," and that my remarks in your 57th number have roused the able pen of Agricola Meridionalis into action. I rejoice when I can promote useful investigation. How far I have been successful I cannot determine, but I can with truth declare, that in the humble support I have given to your work, that has often been my principal object. And if I have frequently aimed at Norfolk, and A. Norfolkensis, and P. J., believe me, Sir, it was because the rural management of that county had been greatly, and, *for a long period*, deservedly extolled; because I admire the talents and agricultural knowledge of these correspondents, and because I conceived that in an extensive district, comprising part of the counties of Northumberland, Roxburgh, and Berwick, the management of light lands was much more judicious than in Norfolk. The particulars of this management I wished, *for the interest of my brother farmers and that of the country*, to diffuse as widely as possible; and I am happy that I have induced Agricola Norfolkensis to acknowledge that he is a convert to our very superior mode of cultivating turnips. Before I have done with your Magazine, I hope to convince him, and all your readers, that most of our other modes of management are also superior to those practised in Norfolk; and I now "challenge" him to refute what I have advanced on these important subjects. This, Sir, I hope, will produce a more agreeable, good-natured, and advantageous discussion, than that in which we have, for some months past been engaged. I beg, however, that when I insist upon the superiority of our northern management (which I will certainly do till it be clearly proved that I am wrong) your correspondent will not suppose, I conceive this district "the only spot in which farmers know any thing," or that I am extolling an individual. No, Mr. Editor, he must clearly understand that I write (with a view of benefitting society) in favour of an excellent system, which is supported by a *vast body* of highly respectable agriculturists. I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

*PREMIUMS offered by the SOCIETY, instituted at London, for the Encouragement of Arts, Manufactures, and Commerce, for the Year 1804.*

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TO THE PUBLIC.

THE chief objects of the SOCIETY are to promote the Arts, Manufactures, and Commerce of this kingdom, by giving rewards for all such useful Inventions, Discoveries, and Improvements, (though not mentioned in this book), as tend to that purpose; and, in pursuance of this plan, the SOCIETY have already expended FIFTY THOUSAND POUNDS, advanced by voluntary subscriptions of their members, and legacies bequeathed.

The manner in which this money has been distributed may be seen by applying to the Secretary or other officers of the SOCIETY, at their house in the *Adelphi*. The Register of the Premiums and Bounties they have given will show the very great advantages which the Public have derived from this Institution.

The meetings of the SOCIETY are held every *Wednesday*, at seven o'clock in the evening, from the fourth *Wednesday* in *October* to the first *Wednesday* in *June*. The several Committees meet on other evenings in the week during the session.

In order still farther to promote the laudable views of this SOCIETY, it may be necessary to explain the mode by which its members continue to be elected.

Each member has the privilege, at any weekly meeting of the SOCIETY, of proposing any person who is desirous to become a member, provided such proposal is signed by three members of the SOCIETY.

Peers of the Realm or Lords of Parliament are, on their being proposed, immediately ballotted for; and the name, with the addition and place of abode, of every other person proposing to become a member, is to be delivered to the Secretary, who is to read the same, and properly insert the name in a list, which is to be hung up in the SOCIETY's room until the next meeting; at which time such person shall be ballotted for; and, if two-thirds of the members, then voting, ballot in his favour, he shall be deemed a *perpetual member*, upon payment of *Twenty Guineas* at one payment; or a *subscribing member*, upon payment of any sum not less than *Two Guineas* annually.

Every member is entitled to vote and be concerned in all the transactions of the SOCIETY, and to attend and vote at the several Committees. He has also the privilege of recommending two persons as Auditors, at the weekly meeting of the SOCIETY; and, by addressing a note to the Housekeeper, of introducing his friends to examine the various models, machines, and productions, in different branches of arts, manufactures, and commerce, for which rewards have been bestowed; and to inspect the magnificent series of moral and historical paintings, so happily contrived and completed by JAMES BARRY, Esq. which, with some valuable busts and statues, decorate the Great Room. He has likewise the use of a valuable Library; and is entitled to the annual Volume of the SOCIETY's Transactions.

The time appointed for admission to the paintings or models, is from ten to two o'clock, *Sundays* and *Wednesdays* excepted.

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PREMIUMS IN AGRICULTURE.

Class 1. ACORNS.

FOR having set, between the first of *October*, 1802, and the first of *April*, 1803, the greatest quantity of land, not less than ten acres, with acorns, with or without seeds, cuttings, or plants of other trees, at the option of the candidate; and for effectually fencing and preserving the same, in order to raise timber; the gold medal.

2. For the second greatest quantity of land, not less than five acres, set agreeably to the above conditions, the silver medal.

*Certificates* of setting agreeably to the above conditions, and that there are not fewer than

three hundred young oaks on each acre, to be delivered to the Society on or before the first *Tuesday* in *December*, 1804.

3. RAISING OAKS. To the person who shall have raised, since the year 1800, the greatest number of oaks, not fewer than five thousand, either from young plants or acorns, in order to secure a succession of oak timber in this kingdom; the gold medal.

4. For the next greatest number, not fewer than three thousand; the silver medal.

*Certificates* that there were on the land, at least the number of young oak-trees required, in a thriving condition, two years after the planting, with an account of the methods pursued in making and managing the plantation,

to be produced to the Society on or before the first Tuesday in January, 1805.

5. **ASCERTAINING THE BEST METHOD OF RAISING OAKS.** To the person who shall ascertain in the best manner, by actual experiments, the comparative merits of the different modes of raising oaks for timber, either from acorns set on land properly dug or tilled, from acorns set by the spade or dibble, without digging or tillage, either on a smooth surface, or among bushes, fern, or other cover; or from young plants previously raised in nurseries, and transplanted; regard being had to the expense, growth, and other respective advantages of the several methods; the gold medal.

The accounts, and proper certificates that not less than one acre has been cultivated in each mode, to be produced to the Society on or before the first Tuesday in November, 1804.

6. **CHESNUTS.** For having sown or set, between the first of October, 1802, and the first of April, 1803, the greatest quantity of dry loamy land, not less than six acres, with Spanish chesnuts, with or without seeds, cuttings, or plants of other trees, adapted to such soil, at the option of the candidate; and for effectually fencing and preserving the same, in order to raise timber; the gold medal.

7. For the second greatest quantity, not less than four acres, the silver medal.

Certificates of sowing or setting, agreeably to the above conditions, and that there are not fewer than three hundred chesnut plants, in a thriving state, on each acre, to be delivered to the Society on or before the first Tuesday in January, 1805.

8. **ELM.** For having planted the greatest number of the English elm, not less than eight thousand, between the twenty-fourth of June, 1802, and the twenty-fourth of June, 1803; and for having effectually fenced and preserved the same, in order to raise timber; the gold medal.

9. For the second greatest number, not less than five thousand, the silver medal.

Certificates of having planted, agreeably to the above conditions, that the plants were in a healthy and thriving state two years at least after making the plantation, and specifying the distance of the plants, to be delivered to the Society on or before the first Tuesday in April, 1805.

10. **LARCH.** For having planted out, between the twenty-fourth of June 1801, and the twenty-fourth of June, 1802, the greatest number of larch-trees, not fewer than five thousand; and for having effectually fenced and preserved the same, in order to raise timber; the gold medal.

11. For the next greatest number, not fewer than three thousand, the silver medal.

Certificates of the number of plants, that

they were in a healthy and thriving state two years at least after they were planted out, with a general account of the methods used in making the plantation, to be delivered to the Society on or before the last Tuesday in December, 1804.

12, 13. The same premiums are extended one year farther.

Certificates to be produced on or before the last Tuesday in December, 1805.

N. B. The larch-trees may be either planted, mixed with other trees, or by themselves, as may best suit the convenience of the planter.

14. **OSTERS.** To the person who shall have planted, between the first of October, 1803, and the first of May, 1804, the greatest quantity of land, not less than five acres, with those kinds of willows, commonly known by the names of osier, Spaniard, new kind, or French, fit for the purpose of basket-makers, not fewer than twelve thousand plants on each acre; the gold medal, or thirty guineas.

15. For the second greatest quantity of land, not less than three acres, the silver medal, or ten guineas. Certificates of the planting, and that the plants were in a thriving state five months at least after the planting, to be produced to the Society on or before the last Tuesday in November, 1804.

16. **ALDER.** For having planted, in the year 1801, the greatest number of alders, not less than three thousand; the gold medal.

Certificates of the number of plants, and that they were in a thriving state two years at least after being planted, to be delivered to the Society on or before the last Tuesday in December, 1804.

17. **ASH.** For having sown or set, in the year 1801, the greatest quantity of land, not less than six acres, with ash for timber, with or without seeds, cuttings, or plants, of such other trees as are adapted to the soil; the gold medal.

18. For the next greatest quantity, not less than four acres, the silver medal.

Certificates of the sowing or setting, agreeably to the above conditions, that there are not fewer than one hundred ash plants on each acre, in a thriving and healthy condition, two years at least after the sowing or setting, with a general account of the methods used in making the plantation; to be delivered to the Society on or before the last Tuesday in December, 1804.

19, 20. The same premiums are extended one year farther.

Certificates to be delivered on or before the last Tuesday in December, 1805.

N. B. It is the particular wish of the Society, that such lands only as are not calculated for growing corn, should be employed for the purposes specified in these advertisements.

21. **FOREST-TREES.** To the person who shall have inclosed and planted, or set, the greatest number of acres (not less than ten) of land, that is incapable of being ploughed, such as the borders of rivers, the sides of precipices, and any land that has too many rocks, or that is not calculated to repay the expense of tillage, owing to the stiffness or poverty of the soil, the surface being too hilly, mountainous, or otherwise unfit for tillage, with the best sorts of forest-trees, namely, oak, Spanish chesnuts, ash, elm, beech, alder, willow, larch, spruce and silver fir, with or without screens of Scotch fir, adapted to the soil, and intended for timber-trees, between the first of October, 1801, and the first of April, 1802; the gold medal.

22. For the second greatest quantity of land, not less than seven acres; the silver medal, or ten guineas.

23. For the third greatest quantity of land, not less than five acres, the silver medal. A particular account of the methods used in making and managing the plantations, the nature of the soil, the probable number of each sort of plants, together with proper certificates that they were in a healthy and thriving state two years at least after making the plantation, to be delivered to the Society on or before the first Tuesday in November, 1804.

24, 25, 26. The same premiums are extended one year farther. Certificates to be produced on or before the first Tuesday in November, 1805.

N.B. With the above forest-trees, the seeds, cuttings, or plants, of such other trees as are adapted to the soil, and proper for underwood, may or may not be intermixed.

N.B. The candidates for planting all kinds of trees are to produce certificates that the respective plantations are properly fenced and secured, and particularly to state the condition of the plants at the time of signing such certificates. Any information which the candidates for the foregoing premiums may choose to communicate, relative to the methods made use of in forming the plantations, or promoting the growth of the several trees, or any other observations that may have occurred on the subject, will be thankfully received.

27. **SECURING PLANTATIONS OF TIMBER-TREES, AND HEDGE-ROWS.** To the person who shall give to the Society the most satisfactory account, founded on experience, of the most effectual and least expensive method of securing young plantations of timber-trees, and hedge-rows, from hares and rabbits, as well as sheep and larger cattle, which at the same time shall be least subject to the depredations of wood-stealers, the silver medal, or ten gui-

neas. The accounts, and certificates of the efficacy of the method, to be produced to the Society on or before the first Tuesday in November, 1804.

28. The same premium is extended one year farther. The accounts and certificates to be produced on or before the first Tuesday in November, 1805.

29. **COMPARATIVE TILLAGE.** For the most satisfactory set of experiments, made on not less than eight acres of land, four of which to be trench-ploughed,\* and four to be ploughed in the usual manner, in order to ascertain in what cases it may be advisable to shorten the operations of tillage, by adopting one trench-ploughing, for the purpose of burying the weeds, instead of the method, now in common use, of ploughing and harrowing the land three or four times, and raking the weeds together and burning them; the gold medal. It is required that every operation and expense attending each mode of culture be fully and accurately described, and that proper certificates of the nature and condition of the land on which the experiments are made, together with a circumstantial account of the appearance of the subsequent crops during their growth; and also of the quantity and weight of the corn and straw under each mode of culture, or, in case of a green crop, the weight of an average sixteen perches, be produced to the Society on or before the first Tuesday in February, 1805.

30. **COMPARATIVE CULTURE OF WHEAT, BROAD-CAST, DRILLED, AND DIBBLED.** For the best set of experiments, made on not less than twelve acres, four of which to be sown broad-cast, four drilled, and four dibbled, the two latter in equidistant rows, in order fully to ascertain which is the most advantageous mode of cultivating wheat; the gold medal, or thirty guineas. It is required that every operation and expense of each mode of culture be fully described; and that proper certificates of the nature and condition of the land on which the experiments are made, together with an account of the produce of the corn, the weight per bushel, and also of the straw, be produced to the Society on or before the first Tuesday in February, 1805.

31. **SPRING WHEAT.** To the person who, between the 10th of January and the 10th of April, 1804, shall cultivate the greatest quantity of wheat, not less than ten acres; the gold medal. It is required, that the time of sowing and reaping be noticed; also a particular account of the species, cultivation, and expense attending it, with proper certificates of the nature and condition of the land on which the experiments were made, and the name of the crop, if any, which the same land bore the preceding

\* It is a common practice among gardeners, when they have a piece of very foul land, to dig it two spits, or about eighteen inches deep, shovelling the weeds to the bottom. This they call trenching.

year; together with an account of the produce, the weight per Winchester bushel; and a sample, not less than a quart, be produced to the Society on or before the second Tuesday in February, 1805.

It is supposed that sowing wheat early in the spring will not only allow more time to till the land, but less for the growth of weeds; thus rendering the wheat as clean as a barley crop, and exhausting the soil much less than autumnal sowing. It may be seen in the 19th volume, that the wheat usually sown in autumn may be put into the ground, with great success, so late as February or March, thus giving time to clear the ground from turnips, or to avoid a bad season.

32. BEANS AND WHEAT. To the person who shall have dibbled or drilled, between the 1st of December, 1803, and the 1st of April, 1804, the greatest quantity of land, not less than ten acres, with beans, in equidistant rows, and hoed the intervals twice or oftener, and shall have sown the same land with wheat in the autumn of the year 1804; the gold medal. It is required that an account of the sort and quantity of beans, the time of dibbling or drilling, and of reaping or mowing them, the produce per acre thrashed, the expense of dibbling or drilling, hand or horse hoeing, the distance of the rows, and the quality of the soil, together with certificates of the number of acres, and that the land was afterwards actually sown with wheat, be produced on or before the second Tuesday in March, 1805.

33. BEANS. To the person who, in the year 1803, shall discover and cultivate, either by the drill or dibbling method, on not less than five acres, a species of horse-beans or tick-beans, that will ripen their seeds before the 21st of August; the silver medal, or ten guineas. It is required that a particular account of the bean, the cultivation, and the expense attending it, with proper certificates of the nature and condition of the land on which the experiments are made, together with an account of the produce, the weight per Winchester bushel, and a sample of not less than a quart, be produced to the Society on or before the first Tuesday in December, 1804. It is apprehended that, if a bean should be brought into cultivation with the habits of the hotspur, or other early peas, that it would, in a great measure, escape the danger arising from the collier-insect, or other insects, and allow more time for the farmers to till the land for the subsequent crop of wheat. The accounts and certificates to be delivered on or before the first Tuesday in December, 1804.

34. The same premium is extended one year farther. The accounts and certificates to be delivered on or before the first Tuesday in December, 1805.

35. COMPARATIVE CULTURE OF TURNIPS. For the best set of experiments made on not less than eight acres of land, four of which to be sown

broad-cast, and four drilled, to ascertain whether it is most advantageous to cultivate turnips by sowing them broadcast and hand-hoeing them, or by drilling them in equidistant rows, and hand or horse hoeing the intervals; the silver medal, or ten guineas. It is required, that every operation and expense of each mode of culture be fully described, and that proper certificates of the nature and condition of the land on which the experiments were made, together with the weight of the turnips grown, on a fair average sixteen perches of land, under each mode of culture, be produced to the Society on or before the first Tuesday in March, 1805. The object which the Society have in view in offering this premium is experimentally to ascertain the most advantageous method of growing turnips. To do this in a satisfactory manner, both the drilled and broad-cast crops should have the advantage of the most perfect cultivation, consequently the drilled crops should have the intervals between the rows worked by the horse or hand hoe, or by both these implements; and the rows should be either weeded or hand-hoed, or both weeded and hand-hoed. The broadcast crop should have every advantage which weeding and hand-hoeing can give it, consistently with leaving the soil a flatsurface.

36. The same premium is extended one year farther. Certificates to be produced on or before the first Tuesday in March, 1806.

37. PARSNIPS. To the person who, in the year 1804, shall cultivate the greatest quantity of land, not less than five acres, with parsnips, for the sole purpose of feeding cattle or sheep; the gold medal. Certificates of the quantity of land so cultivated, with a particular account of the nature of the soil and weight of the produce on sixteen perches, and also of the condition of the cattle or sheep fed with the parsnips, and the advantages resulting from the practice, to be produced to the Society on or before the second day in February, 1805.

38. BUCK WHEAT. To the person who shall cultivate the greatest quantity of land with buck wheat, not less than thirty acres; the gold medal. It is required that the time of sowing and reaping be noticed; also a particular account of the species, cultivation, and expense attending it, the manner of reaping it, thrashing it, and housing the grain; with proper certificates of the nature and condition of the land on which the experiments were made, and the name of the crop, if any, which the same land bore the preceding year, together with an account of the produce, and a sample of the seed, not less than a quart, be produced to the Society on or before the second Tuesday in January, 1805.

39. For the next greatest quantity, not less than fifteen acres, on similar conditions; the silver medal. Information respecting its application to the feeding of cattle, hogs, and

poultry, and other of its uses, is also desired. It is known to be particularly serviceable in furnishing honey to bees.

40. RAISING GRASS SEEDS. To the person who shall raise the greatest quantity of each or any of the following named grass seeds, viz. —Meadow fox-tail (*alopecurus pratensis*), sweet-scented vernal grass (*anthoxanthum odoratum*), Timothy grass, meadow Fescue grass, smooth-stalked meadow grass (*poa pratensis*), rough-stalked meadow grass (*poa trivialis*); the silver medal, or ten guineas. It is required that certificates from persons who have viewed them in a proper state, to identify that they are one or other of the seeds above mentioned, indicating clearly the particular species, and noticing the quantity produced of such seeds, free from weeds or mixture of other grasses, together with proper samples of the seeds, be produced to the Society on or before the first day of February, 1805.

41. The same premium is extended one year farther. Certificates to be produced on or before the first day of February, 1806.

42. ROTATION OF CROPS. To the person who shall, between the 10th of August, 1801, and the 10th of September, 1803, cultivate the greatest quantity of land, not less than forty acres, in the following rotation, viz. 1st, winter tares; 2d, turnips; and 3d, wheat; and apply the two former crops in the best and most farmer-like manner, to the rearing, supporting, and fattening horses, cattle, sheep, or hogs, on the land which produced the crops; the gold medal, or one hundred guineas.

43. For the next in quantity and merit, on not less than thirty acres, the silver medal, or fifty guineas.

44. For the next in quantity and merit, on not less than twenty acres, the silver medal. It is required, that every operation and expense be fully described, and that satisfactory certificates of the nature and condition of the soil on which the crops have grown, together with an account of their appearance, the number of horses and cattle, sheep or hogs, fed by the two green crops, and, as near as possible, the improved value of the live stock by the consumption of those crops, and also the quantity of wheat per acre, and its weight per bushel, be produced to the Society on or before the first day of November, 1804.

It is presumed that very great advantages will arise to such agriculturists as shall adopt this rotation of crops on a dry soil. They will be enabled, with the addition of a few acres of turnip-rooted cabbage for spring-food, to keep such large flocks of sheep and herds of neat cattle as may secure a sufficient quantity of manure to fertilize their land in the highest degree, and in every situation. It is farther conceived, that wheats which will bear sowing

in the spring will be particularly suitable for this premium.

45, 46, 47. The same premiums are extended one year farther. Certificates to be delivered on or before the first day of November, 1805.

48. PRESERVING TURNIPS. To the person who shall discover to the Society the best and cheapest method of preserving turnips perfectly sound, and in every respect fit for the purpose of supporting and fattening sheep and neat cattle, during the months of February, March, and April; the silver medal, or ten guineas. It is required that a full and accurate account of the method employed, and the expense attending the process, together with certificates that the produce of four acres at the least have been preserved according to the method described, and applied to the feeding of sheep and neat cattle; that the whole were drawn out of the ground before the first day of February, in order to clear the greater part of it previous to its being prepared for corn, and to save the soil from being exhausted by the turnips; and also of the weight of an average sixteen perches of the crop; be produced to the Society on or before the first Tuesday in November, 1804.

N.B. It is recommended to those who may be induced to try the necessary experiments for obtaining this and the following four premiums, to consider the method employed for the preservation of potatoes in ridges (which the growers call pies); and also the propriety of adopting a similar method in cases where they are previously frozen. It is supposed that, in the latter instance, the addition of ice or snow, and the construction of the ridges upon a large scale, may be sufficient to preserve the freezing temperature till the vegetables are wanted for the use of cattle or sheep, at which time they may be thawed by immersion in cold water, and the rot which a sudden thaw produces may be prevented.

49. For the next in quantity and merit, on not less than two acres, the silver medal.

50. PRESERVING CABBAGES. To the person who shall discover to the Society the best and cheapest method of preserving drum-headed cabbages perfectly sound, and in every respect fit for the purpose of supporting and fattening sheep and neat cattle during the months of February, March, and April; the gold medal, or thirty guineas.

51. For the next in quantity and merit, on not less than two acres, the silver medal or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 48. And the accounts to be produced on or before the first Tuesday in November, 1805.

52. PRESERVING CARROTS, PARSNIPS, OR BEETS. To the person who shall discover to the Society the best and cheapest method of

preserving carrots, parsnips, or beets, perfectly sound, and in every respect fit for the purpose of supporting horses, and fattening sheep and neat cattle, during the months of February, March, and April; the silver medal, or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 48. And the accounts to be delivered in on or before the first day in November, 1805.

**53. PRESERVING POTATOES.** To the person who shall discover to the Society the best and cheapest method of preserving potatoes, two or more years, perfectly sound, without vegetating, and in every other respect fit for the purpose of sets and the use of the table, and, consequently, of supporting and fattening cattle; the gold medal, or thirty guineas. It is required, that a full and accurate account of the method employed, and the expense attending the process, with *certificates* that one hundred bushels at the least have been preserved according to the method described, and that one or more bushels of the same potatoes have been set, and produced a crop without any apparent diminution of their vegetative power, and also that they have been used at table, with entire satisfaction to the person who ate of them, together with a sample of one bushel; be sent to the Society on or before the first Tuesday in November, 1805.

**54. MAKING MEADOW-HAY IN WET WEATHER.** To the person who shall discover to the Society the best and cheapest method, superior to any hitherto practised, of making meadow-hay in wet weather; the gold medal, or thirty guineas. A full account of the method employed, and of the expense attending the process, with not less than fifty-six pounds of the hay; and *certificates* that at least the produce of six acres of land has been made according to the method described, and that the whole is of equal quality with the sample; to be produced on or before the first Tuesday in January, 1805.

**55. HARVESTING CORN IN WET WEATHER.** To the person who shall discover to the Society the best and cheapest method, superior to any hitherto practised, of harvesting corn in wet weather; the gold medal, or thirty guineas. A full account of the method employed, and of the expense attending the process, with not less than two sheaves of the corn, and *certificates* that at least the produce of ten acres has been harvested according to the method described, and that the whole is of equal quality with the samples, to be produced on or before the first Tuesday in January, 1805.

**56. ASCERTAINING THE COMPONENT PARTS OF ARABLE LAND.** To the person who shall produce to the Society the most satisfactory set of experiments to ascertain the due proportion of the several component parts of rich arable land, in one or more counties in Great Britain,

by an accurate analysis of it; and who having made a like analysis of some poor arable land, shall, by comparing the component parts of each, and thereby ascertaining the deficiencies of the poor soil, improve a quantity of it, not less than one acre, by the addition of such parts as the former experiments shall have discovered to be wanting therein, and therefore probably the cause of its sterility; the gold medal, or forty guineas. It is required, that the manurings, ploughings, and crops, of the improved land, be the same after the improvement as before; and that a minute account of the produce in each state, of the weather, and of the various influencing circumstances, together with the method made use of in analysing the soils, be produced, with proper *certificates* and the chemical results of the analysis, which are to remain the property of the Society, on or before the last Tuesday in February, 1805.

It is expected that a quantity, not less than six pounds, of the rich, of the poor, and of the improved soils, be produced with the *certificates*.

**57. GAINING LAND FROM THE SEA.** To the person who shall produce to the Society an account, verified by actual experiment, of his having gained the greatest quantity of land from the sea, not less than fifty acres, on the coast of Great Britain or Ireland; the gold medal. *Certificates* of the quantity of land, and that the experiments were begun after the 1st of January, 1798, to be produced to the Society on or before the last Tuesday in October, 1804.

**58.** The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in October, 1805.

**59.** The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in October, 1806.

**60. IMPROVING LAND LYING WASTE.** For the most satisfactory account of the best method of improving any of the following soils, being land lying waste or uncultivated, viz. clay, gravel, sand, chalk, peat-earth and bog, verified by experiments on not less than fifty acres of land; the gold medal, or thirty guineas.

**61.** For the next greatest quantity, not less than thirty acres, the silver medal, or twenty guineas. It is required, that the land before such improvement be absolutely uncultivated, and in a great measure useless, and that, in its improved state, it be enclosed, cultivated, and divided into closes. *Certificates* of the number of acres, of the quality of the land so improved, with a full account of every operation and expense attending such improvement, the state it is in as to the proportion of grass to arable, and the average value thereof, to be produced on or before the first Tuesday in February, 1805.

**62. MANURES.** For the most satisfactory set of experiments, to ascertain the comparative

advantages of the following manures, used as top-dressings on grass or corn land, viz. soot, coal-ashes, wood-ashes, lime, gypsum, night-soil, or any other fit article; the gold medal, or the silver medal and ten guineas. It is required that the above experiments be made between two or more of the above-mentioned manures, and that not less than two acres of land be dressed with each manure. An account of the nature of the soil, quantity and expense of the manure and crops, with *certificates*, to be produced on or before the last Tuesday in February, 1805.

63. The same premium is extended one year farther. The *accounts* and *certificates* to be produced on or before the last Tuesday in February, 1806.

64. RAISING WATER FOR THE IRRIGATION OF LAND. To the person who shall discover to the Society the cheapest and most effectual method of raising water in quantities sufficient to be beneficially employed for the purpose of irrigating land, superior to and cheaper than any other method now in use; the gold medal, or fifty guineas. A model on a scale of one inch to a foot, with *certificates* that a machine at large, on the same construction, has been used, specifying the quantity of water delivered in gallons per hour, and the height to which it was raised, to be produced to the Society on or before the first of March, 1805.

65. The same premium is extended one year farther. *Certificates* to be produced on or before the first of March, 1806.

66. PARING PLOUGH. To the person who shall invent and produce to the Society, a machine or plough for the purpose of paring land preparatory to burning, superior to any hitherto known, or in use for such purpose, and to be worked by not more than one man and two horses; the silver medal, or twenty guineas. The machine, and *certificates* that at least three acres have been pared by it in a proper manner, to be produced to the Society on or before the first of January, 1805.

67. MACHINE FOR DIBBLING WHEAT. To the person who shall invent a machine, superior to any hitherto known or in use, to answer the purpose of dibbling wheat, by which the holes for receiving the grain may be made at equal distances and proper depths; the silver medal and ten guineas. The machine, with *certificates* that at least three acres have been dibbled by it, to be produced to the Society on or before the second Tuesday in January, 1805. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

68. MACHINE FOR REAPING OR MOWING CORN. For inventing a machine to answer the purpose of mowing or reaping wheat, rye, barley, oats, or beans, by which it may be done more expeditiously and cheaper than by any

method now practised, provided it does not shed the corn or pulse more than the methods in common practice, and that it lays the straw in such a manner that it may be easily gathered up for binding; the gold medal, or thirty guineas. The machine, with *certificates* that at least three acres have been cut by it, to be produced to the Society on or before the second Tuesday in December, 1804. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

69. THRASHING MACHINE. To the person who shall invent a machine by which corn of all sorts may be thrashed more expeditiously, effectually, and at a less expense, than by any method now in use; the gold medal, or thirty guineas. The machine, or a model, with proper *certificates* that such a machine has been usefully applied, that at least thirty quarters have been thrashed by it, and of the time employed in the operation, to be produced to the Society on or before the last Tuesday in February, 1805.

70. DESTROYING THE GRUB OF THE COCKCHAFER. To the person who shall discover to the Society an effectual method, verified by repeated and satisfactory trials, of destroying the grub of the cockchafer, or of preventing or checking the destructive effects which always attend corn, peas, beans, and turnips, when attacked by those insects; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be produced on or before the first Tuesday in January, 1805.

71. DESTROYING WORMS. To the person who shall discover to the Society an effectual method, verified by repeated and satisfactory trials, of destroying worms, or of preventing the destructive effects they occasion on corn, beans, peas, or other pulse; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be produced to the Society on or before the first Tuesday in January, 1805.

72. DESTROYING THE FLY ON HOPS. To the person who shall discover to the Society an easy and efficacious method of destroying the fly on hops, superior to any hitherto known or practised; on not less than four acres of hop-ground; the gold medal, or thirty guineas. *Accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

73. PREVENTING THE BLIGHT, OR RAVAGES OF INSECTS, ON FRUIT-TREES AND CULINARY PLANTS. To the person who shall discover to the Society the most effectual method of preventing the blight, or ravages of insects on fruit-trees and culinary plants, superior to any hitherto known or practised, and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be delivered to the Society on or before the second Tuesday in November, 1804.



74. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the second Tuesday in November, 1805.

75. REMOVING THE ILL EFFECTS OF BLIGHTS, OR INSECTS. To the person who shall discover to the Society the most effectual method of removing the ill effects of blights, or insects, on fruit-trees and culinary plants, superior to any hitherto known or practised; and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

76. CURE OF THE ROT IN SHEEP. To the person who shall discover to the Society the best and most effectual method of curing the rot in sheep, verified by repeated and satisfactory experiments; the gold medal, or fifty guineas. It is expected that the candidates furnish accurate *accounts* of the symptoms and cure of the disease, together with the imputed cause thereof, and the actual or probable means of prevention, which, with proper *certificates*, must be delivered to the Society on or before the first Tuesday in February, 1805.

77. CURE OF THE FOOT-ROT IN SHEEP. To the person who shall discover to the Society the best and most effectual method of curing the foot-rot in sheep; the silver medal, or ten guineas. It is required, that the cure be ascertained by repeated and satisfactory experiments, and the method of performing it be verified by proper *certificates* delivered to the Society on or before the first Tuesday in February, 1805.

78. PREVENTING THE ILL EFFECTS OF FLIES ON SHEEP. To the person who shall discover to the Society the most effectual method of protecting sheep from being disturbed and injured by flies; the silver medal, or ten guineas. It is required, that the method be ascertained by repeated experiments, and that a *certificate* of its efficacy be delivered to the Society on or before the first Tuesday in December, 1804.

79. PROTECTING SHEEP. To the person who, in the year 1803, shall protect the greatest number of sheep, not fewer than one hundred, by hovels, sheds, or any other means, and give the most satisfactory account, verified by experiment, of the advantages arising from the practice of protecting sheep from the inclemency of the weather, by hovels, sheds, or any other means; the silver medal, or twenty guineas. A particular *account* of the experiments made, with the advantages arising therefrom, together with the expense, and *certificates* of its utility, to be produced to the Society on or before the first Tuesday in March, 1805.

80. The same premium is extended one

year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in March, 1806.

N.B. It is required that the *certificates* shall specify the length of time the sheep were so protected, and the manner in which they were maintained during that time; together with the general method of managing them.

81. IMPROVING THE CONDITION OF THE LABOURING POOR, BY FRICKING COTTAGES, AND APPORTIONING LAND. To the person who, in the year 1803, shall erect the greatest number of cottages for the accommodation of the labouring poor, and apportion not less than two acres of land to each cottage; the gold medal. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

82. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1806.

83. IMPROVING THE CONDITION OF THE LABOURING POOR BY APPORTIONING LAND TO COTTAGES. To the person who, in the year 1803, shall apportion to the greatest number of cottages already built upon his or her estate, any quantity of land, not less than two acres to each cottage, for the better accommodation of the respective inhabitants; the gold medal. The *accounts* of the number of cottages, and of the quantity of land apportioned to each, to be delivered to the Society, with proper *certificates*, on or before the first Tuesday in February, 1805.

84. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in February, 1806.

85. CULTURE OF HEMP IN CERTAIN PARTS OF SCOTLAND. The Society for the Encouragement of Arts, Manufactures, and Commerce, wishing to encourage the growth of hemp for the use of the navy in certain parts of Scotland, comprehending the whole county of Argyle, that part of Perthshire situated to the north of the river Tay, and west of the Military Road (see Ainslie's Map of Scotland) leading from Logierait to the county of Inverness, and such other parts of Scotland as lie north of Inverness-shire, offers to the person who shall sow with hemp, in drills at least eighteen inches asunder, the greatest quantity of land in the above-mentioned district, not less than fifty acres statute measure, in the year 1804, and shall at the proper season cause to be plucked the summer hemp (or male hemp bearing no seed), and continue the winter hemp (or female hemp bearing seed) on the ground until the seed is ripe, the gold medal, or fifty guineas.

86. To the person who shall sow with hemp, in drills at least eighteen inches asunder, the

next greatest quantity of land in the same above-mentioned district, not less than twenty-five acres, statute measure, in the year 1804, and shall at the proper season cause the same to be plucked as above mentioned; the silver medal, or twenty-five guineas. *Certificates* of the number of acres, of the distance of the drills, of the plucking of the hemp, with a general account of the soil, cultivation, and produce, to be delivered to the Society, along with fourteen pounds of the hemp, and two quarts of the seed, on or before the second Tuesday in January, 1805.

#### PREMIUMS FOR DISCOVERIES AND IMPROVEMENTS IN CHEMISTRY, DYING, AND MINERALOGY.

##### 87. PRESERVING SEEDS OF VEGETABLES.

For the best methods of preserving the seeds of plants in a state fit for vegetation a longer time than has hitherto been practised, such method being superior to any known to the public, and verified by sufficient trial, to be communicated to the Society on or before the first Tuesday in December, 1804; the gold medal, or thirty guineas.

88. PREVENTING THE DRY-ROT IN TIMBER. To the person who shall discover to the Society the cause of the dry-rot in timber, and disclose a certain method of prevention superior to any hitherto known; the gold medal, or thirty guineas. The accounts of the cause, and method of prevention, confirmed by repeated experiments, to be produced to the Society on or before the second Tuesday in December, 1804.

89. PRESERVING SALTED PROVISIONS FROM BECOMING RANCID OR RUSTY. To the person who shall discover to the Society the best, cheapest, and most efficacious method of preserving salted provisions from growing rancid or rusty; the gold medal, or thirty guineas. A full description of the method, with proper certificates that it has been found, on repeated trials, to answer the purpose intended, to be produced to the Society on or before the first Tuesday in February, 1805.

90. CLEARING FEATHERS FROM THEIR ANIMAL OIL. To the person who shall discover to the Society the best and most expeditious method, superior to any hitherto practised, of clearing goose-feathers from their offensive animal oil, for the use of upholsters, in making beds, cushions, &c. the silver medal, or twenty guineas. A quantity of such feathers unstripped and so cleared, not less than forty pounds weight, with a full account of the process, to be produced to the Society on or before the first Tuesday in February, 1805.

91. REFINING WHALE OR SEAL OIL. For disclosing to the Society an effectual method of purifying whale or seal oil from the glu-

tinuous matter that incrusts the wicks of lamps and extinguishes the light, though fully supplied with oil; the gold medal, or fifty guineas. It is required, that the whole of the process be fully and fairly disclosed, in order that satisfactory experiments may be made by the Society to determine the validity of the claim; and certificates that not less than twenty gallons have been purified according to the process delivered in, together with two gallons of the oil, in its unpurified state, and two gallons so refined, be produced to the Society on or before the second Tuesday in February, 1805.

##### 92. MANUFACTURING TALLOW CANDLES.

To the person who shall discover to the Society a method of hardening or otherwise preparing tallow, so that candles may be made of it which will burn as clear and with as small a wick as wax candles, without running, and may be afforded at a less expense than any at present made with spermaceti; the gold medal, or thirty guineas. *Certificates* that 112lb. of such tallow have been made into candles, and 12lb. of the candles made thereof, to be produced to the Society on or before the second Tuesday in January, 1805.

93. CANDLES FROM RESIN OR OTHER SUBSTANCES. To the person who shall discover to the Society the best method of making candles of resin, or any other substance, fit for common use, at a price much inferior to those made of tallow only; the gold medal, or thirty guineas. Six pounds at least of the candles so prepared, with an account of the process, to be delivered to the Society on or before the first Tuesday in December, 1804.

94. METHOD OF SEPARATING SUGAR IN A SOLID FORM FROM TREACLE. To the person who shall discover to the Society the best method of separating sugar from treacle, in a solid form, at such an expense as will render it advantageous to the public; the gold medal, or fifty guineas. A quantity of the sugar so prepared, in a solid form, not less than thirty pounds weight, with an account of the process, and certificates that not less than one hundred weight has been prepared, to be produced to the Society on or before the first Tuesday in February, 1805.

95. PROOF-SPIRIT. To the distiller who, in the year 1804, shall make the greatest quantity, not less than one hundred gallons, of a clean marketable spirit, from articles not the food of man or cattle, equal in strength or quality to the proof-spirit now in use, and at a rate not higher than the spirit produced from corn or melasses; the gold medal, or one hundred guineas. Ten gallons of the spirit, together with proper certificates, and a full account of the expense and mode of making it, to be produced to the Society on or before the first Tuesday in January, 1805.

96. INCREASING STEAM. To the person

who shall invent and discover to the Society a method, verified by actual experiments, of increasing the quantity or force of steam, in steam-engines, with less fuel than has hitherto been employed, provided that in general the whole amount of the expenses in using steam-engines may be considerably lessened; the gold medal, or thirty guineas. To be communicated to the Society on or before the first Tuesday in January, 1805.

97. **SUBSTITUTE FOR TAR.** To the person who shall invent and discover to the Society the best substitute for Stockholm tar, equal in all its properties to the best of that kind, and prepared from materials the produce of Great-Britain; the gold medal, or one hundred guineas. A quantity of the substitute, not less than one hundred weight, with *certificates* that at least one ton has been manufactured, and that it can be afforded at a price not exceeding that of the best foreign tar, together with an *account* of the process, to be delivered to the Society on or before the first Tuesday in March, 1805.

98. **PREPARATION OF TAN.** To the person who shall prepare in the most concentrated form, so as to be easily portable, and at a price applicable to the purposes of manufactures, the largest quantity, not less than one hundred weight, of the principle called by the French *tannin*, which abounds in oak-bark and many other vegetable substances; the gold medal, or fifty guineas. *Certificates* of the superior quality of the quantity so prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1805.

99. **INDELIBLE INK.** To the person who shall discover to the Society, a method of making a black ink proper for writing, superior to any at present known, indestructible by chemical applications, and not dearer than that which is now in common use; the silver medal or fifteen guineas. *Certificates* that not less than two gallons of such ink have been actually prepared and found to possess the qualities above mentioned, with a full detail of the process of making it, and two quarts of the ink, to be delivered to the Society on or before the second Tuesday in January, 1805.

100. **PREPARATION OF A RED STAIN FOR COTTON CLOTH.** To the person who shall communicate to the Society, the cheapest and most effectual method of printing or staining cotton cloths with a red colour, by an immediate application of the colouring-matter to the cloth, equally beautiful and durable with the red-colours now generally procured from decoctions of madder; the gold medal, or thirty guineas. *Certificates* that the above process has been advantageously used on ten pieces of calico, each twenty-one yards or upwards in length, one piece of the calico so printed, a

quart of the colour in a liquid state, and a full *account* of the preparation and application, to be produced to the Society on or before the second Tuesday in January, 1805.

101. **PREPARATION OF A GREEN COLOUR FOR PRINTING COTTON CLOTH.** To the person who shall communicate to the Society the best and cheapest method of printing with a full green colour on cotton cloth, by an immediate application of the colouring matter from a wooden block to the cloth, equally beautiful and durable as the colours now formed from the complicated process of the decoction of weld on alumine and the solutions of indigo by earths or alkaline salts; the gold medal, or thirty guineas. *Certificates* and conditions as for premium 100.

102. **SUBSTITUTE FOR THE BASIS OF PAINT.** To the person who shall produce to the Society the best substitute, superior to any hitherto known, for the basis of paint, equally proper for the purpose as the white lead now employed; such substitute not to be of a noxious quality, and to be afforded at a price not materially higher than that of white lead; the gold medal, or one hundred guineas. A quantity of the substitute, not less than 50lb. weight, with an *account* of the process used in preparing it, and *certificates* that at least one hundred weight has been manufactured, to be produced to the Society on or before the first Tuesday in January, 1805.

103. **RED PIGMENT.** To the person who shall discover to the Society a full and satisfactory process for preparing a red pigment, fit for use, in oil and water, equal in tone and brilliancy to the best carmines and lakes now known or in use, and perfectly durable; the gold medal, or thirty guineas. One pound weight of such colour, and a full disclosure of its preparation, to be produced to the Society on or before the first Tuesday in Feb. 1805.

N. B. It is not required that the colour should resist the action of fire or chemical applications, but remain unaltered by the common exposure to strong light, damps, and noisome vapours.

104. **ULTRAMARINE.** To the person who shall prepare an artificial ultramarine, equal in colour, brilliancy, or durability, to the best prepared from lapis lauli, and which may be afforded at a cheap rate; the gold medal, or thirty guineas. The conditions are the same as in the preceding premium for the red pigment.

105. **ANALYSIS OF BRITISH MINERALS.** To the person who shall communicate to the Society, the most correct analysis of any mineral production of Great-Britain, hitherto either unexamined, or not examined with accuracy; the gold medal. The analysis and sufficient specimens to be produced to the Society on or before the first Tuesday in Jan. 1805.

106. **STATUARY MARBLE.** To the person

who shall discover, within Great-Britain or Ireland, a quarry of white marble fit for the purposes of statuary, and equal in all respects to those kinds now imported from Italy; the gold medal, or one hundred pounds. A block of at least three feet in length, two in height, and two in width, with an account of the situation of the quarry, and certificates of its possessing considerable extent, to be produced to the Society on or before the first Tuesday in February, 1805.

N. B. In order to prevent useless expense or trouble to the claimant in forwarding so large a block, the Society will be ready to examine any smaller specimen of the marble, and express their opinion of its value to the candidate before the block required by the above premium is produced.

107. PREPARATION OF SULPHURIC ACID FROM SULPHUR WITHOUT THE USE OF ANY NITRIC SALT. To the person who shall prepare the largest quantity (not less than one ton) of sulphuric acid from sulphur, without any nitric salt, of a specific gravity, not inferior to the best sulphuric acid of commerce; the gold medal, or fifty guineas. *Certificates* that not less than the above quantity of such an acid has been prepared, together with a sample, to be produced to the Society on or before the first Tuesday in January, 1805.

108. PREPARATION OF ANY ALKALINE OR EARTHY NITRATE. To the person who shall prepare, in Great-Britain, the largest quantity, not less than one hundred weight, of any salt of nitric acid, with either earths or alkalies, by a method superior to and as cheap as those hitherto practised; the gold medal, or one hundred guineas. *Certificates* of the above quantity having been prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1805.

109. FINE BAR-IRON. To the person, in Great-Britain, who shall make the greatest quantity of bar-iron, not less than ten tons, with coak, from coak-pigs, equal in quality to the best iron imported from Sweden or Russia, and as fit for converting into steel; the gold medal, or fifty guineas. Samples, not less than one hundred weight, with *certificates* that the whole quantity is of equal quality, to be produced to the Society on or before the first Tuesday in January, 1805.

110. PRESERVING IRON FROM RUST. To the person who shall invent and discover to the Society a cheap composition, superior to any now in use, which shall effectually preserve wrought iron from rust, the gold medal, or fifty guineas. A full description of the method of preparing the composition, with *certificates* that it has stood at least two years unimpaired, being exposed to the atmosphere during the whole time, to be produced to the Society,

with ten pounds weight of the composition, on or before the first Tuesday in January, 1805.

111. REFINING BLOCK-TIN. To the person who shall discover to the Society the best method of purifying or refining block-tin, so as to render it fit for the finest purposes to which grain-tin is now applied, and not higher in price; the gold medal, or fifty guineas. *Certificates* that not less than three tons have been so refined or purified, with a full detail of the process, and a quantity, not less than one hundred weight, of the tin so refined, to be produced to the Society on or before the first Tuesday in January, 1805.

112. GLAZING EARTHEN-WARE WITHOUT LEAD. To the person who shall discover to the Society the cheapest, safest, most durable, and most easily fusible, composition, fit for the purpose of glazing the ordinary kinds of earthen-ware, without any preparation of lead, and superior to any hitherto in use; the gold medal, or thirty guineas. Specimens of the ware so glazed, with proper *certificates* of its having succeeded, and a sample of the materials made use of, to be produced to the Society on or before the first Tuesday in Feb. 1805.

113. REFINING COPPER FROM THE ORE. To the person who shall discover to the Society the best method of separating, purifying, and refining copper from the ore, so as to render it fit for the finest purposes to which fine copper is now applied, and by a process superior to any hitherto known or in use, and not higher in price; the gold medal, or fifty guineas. *Certificates* that not less than three tons have been so prepared or refined, and a quantity not less than one hundred weight of the copper so refined, to be produced to the Society on or before the first Tuesday in Feb. 1805.

114. MINERALOGICAL MAP OF ENGLAND AND WALES. To the person who shall complete and publish an accurate mineralogical map of England and Wales, on a scale of not less than ten miles to an inch, containing an account of the situation of the different mines therein, and describing the kinds of minerals thence produced; the gold medal, or fifty guineas. *Certificates* of the accuracy of such map, together with the map, to be produced to the Society on or before the first Tuesday in February, 1805. The map to remain the property of the Society.

115. MINERALOGICAL MAP OF IRELAND. The same premium is offered for a mineralogical map of Ireland, on similar conditions.

116. MINERALOGICAL MAP OF SCOTLAND. The same premium is offered for a mineralogical map of Scotland, on similar conditions.

117. NATURAL HISTORY. To the author who shall publish, in the year 1804, the natural history of any county in England or Wales; the gold medal, or fifty guineas. It is required that the several natural productions,

whether animal, or vegetable, or mineral, peculiar to the county, or found therein, be carefully and specifically arranged and described, in order that the public may be enabled to judge what arts or manufactures are most likely to succeed in such county. The work to be delivered to the Society on or before the last Tuesday in January, 1805.

### PREMIUMS IN POLITE ARTS.

118. **HONORARY PREMIUMS FOR DRAWING, BY NOBILITY.** For the best original drawing, of any kind, by young gentlemen under the age of twenty-one, sons or grandsons of peers, or peeresses in their own right, of Great-Britain or Ireland, to be produced on or before the first Tuesday in March, 1805; the honorary medal of the Society in gold.

119. The same in silver for the best copy.

120, 121. The same premiums will be given, on the like conditions, to young ladies, daughters or grand-daughters of peers, or peeresses in their own right, of Great-Britain or Ireland.

122. **HONORARY PREMIUMS FOR DRAWING, BY GENTLEMEN.** For the best original drawing, of any kind, by young gentlemen under the age of twenty-one; to be produced on or before the first Tuesday in March, 1805; the gold medal.

123. For the best copy, the silver medal.

124, 125. The same premiums will be given for drawings by young ladies.

N. B. As the foregoing honorary premiums are intended only for such of the nobility and gentry as may hereafter become patrons or patronesses of the arts; persons professing any branch of the polite arts, or any business dependent on the arts of design, or the sons or daughters of such persons, will not be admitted candidates in these classes.

126. **DRAWINGS OF OUTLINES.** For the best outline, after a cast, in plaster, of the Venus de Medicis, by persons of either sex, under the age of sixteen, the figure not less than eighteen inches; to be produced on or before the last Tuesday in February, 1805; the greater silver pallet.

127. For the next in merit; the lesser silver pallet.

128. **DRAWINGS OF LANDSCAPES.** For the best drawing in water-colours of a landscape after nature, not less than eighteen inches by twelve, by persons of either sex, under twenty-one years of age, to be produced on or before the last Tuesday in February, 1805; the gold pallet.

129. For the next in merit, the greater silver pallet. Each candidate must mention, on the front of the drawing, whence the view was taken.

130. **HISTORICAL DRAWING.** For the best historical drawing, being an original com-

position, of five or more human figures; the height of the principal figure not less than eight inches; to be produced on or before the third Tuesday in Feb. 1805; the gold pallet.

131. For the next in merit; the greater silver pallet.

132. **DRAWING AND ENGRAVING.** To the person who shall complete the best original drawing and engraving. The design and engraving to be executed by the same artist, and produced to the Society on or before the first Tuesday in February, 1805; the gold medal. It is required that the drawing and two impressions of the engraving be produced, and remain the property of the Society.

133. **LINE ENGRAVINGS OF LANDSCAPES.** For the best line engraving of a landscape, published in the year 1804, the size of the engraving not less than eighteen inches by fourteen; the gold medal. To be produced to the Society on or before the last Tuesday in January, 1805; and the impression to which the premium is adjudged to remain the property of the Society.

134. For the next in merit; the silver medal, on similar conditions.

135. **LINE ENGRAVINGS OF HISTORICAL SUBJECTS.** For the best line engraving published in the year 1804, of an historical subject, the size of the engraving not less than eighteen inches by fourteen; the gold medal.

136. For the next in merit; the silver medal. Conditions, &c. the same as in classes 133 and 134.

137, 138, 139, 140. The same premiums are extended one year farther.

N. B. It is not necessary in the classes of line engravings, for the artist's name to be concealed. The first aquafortis proof of the above plates are required to be sent in with the finished impression, and certificates that the etchings are the entire work of the candidate. The aquafortis proof also to remain the property of the Society.

141. **MODEL IN CLAY OR PLASTER.** For the best model in clay or plaster of an ornamental design for the purpose of embellishing works of architecture; the silver medal or twenty guineas. To be produced to the Society on or before the last Tuesday in January, 1805. The model not to be less than thirty inches by twelve.

142. **PERSPECTIVE DRAWINGS OF MACHINES.** For the best perspective drawing of machines by persons under twenty-one years of age; the greater silver pallet. To be produced to the Society on or before the last Tuesday in January, 1805.

143. For the next in merit; the lesser silver pallet, on similar conditions.

144. **ENGRAVING ON WOOD, OR METAL BLOCKS, &c.** For the best engraving on wood or metal blocks, or any other material,

so that the same be rendered capable of composition with the letter-press, of any allegorical or other subject suited to the embellishment of letter-press, the gold pallet.

145. For the next in merit, the greater silver pallet. Two or more impressions along with the block to be produced to the Society on or before the first Tuesday in February, 1805. The impressions, but not the block, to remain the property of the Society.

146. BRONZES. For the best drapery figure or group cast in bronze; if a single figure, not less than twelve inches high; and, if a group, not less than nine inches; and which will require the least additional labour to repair; the gold medal, or the silver medal and twenty guineas. The cast to be exhibited to the Society before it is begun to be repaired, with the original figure or group, on or before the first Tuesday in February, 1805, together with a full explanation of the whole process.

147. ORNAMENTAL DRAWINGS FOR ARCHITECTURAL DESIGNS. For the best ornamental drawing for the purpose of embellishing architectural designs; a silver medal with the following engraved inscription: *The Premium given by the Society for the Encouragement of Arts, Manufactures, and Commerce, in conformity to the Will of John Stock, of Hampstead, Esq.* The drawing to which the premium is adjudged to remain the property of the Society; and to be produced to the Society on or before the second Tuesday in February, 1805.

#### PREMIUMS FOR ENCOURAGING AND IMPROVING MANUFACTURES.

148. MACHINE FOR CARDING SILK. For the best machine, superior to any now in use, for carding waste silk equally well as by hand; to be produced, together with a specimen of the cardings, on or before the first Tuesday in November, 1804; the silver medal, or twenty guineas.

149. CLOTH FROM HOP-STALKS, &c. To the person who shall produce to the Society the greatest quantity, not less than thirty yards of cloth at least twenty-seven inches wide, made in Great-Britain, of hop-stalks or bines, or other raw vegetable substances, the produce of Great-Britain or Ireland, superior to any hitherto manufactured from such substances, and which can be generally afforded as cheap as cloth of equal quality and appearance now made from hemp, flax, or cotton, and much finer in quality than any hitherto manufactured in England from hop-stalks, &c. the gold medal, or thirty guineas. One pound of the thread of which the cloth is made, and thirty yards of the cloth, together with proper certificates that the whole is manufactured from hop-stalks or bines, &c. to be produced to the

Society on or before the first Tuesday in December, 1804.

N.B. The Society is already in the possession of cloth made in England from hop-stalks or bines, which may be inspected by application to the Housekeeper.

150. WICKS FOR CANDLES OR LAMPS. To the person who shall discover to the Society a method of manufacturing hop-stalks or bines, or any other cheap material, the growth of Great-Britain, so as to render them equally fit for the purpose of supplying the place of cotton, for wicks of candles or lamps; twenty guineas. Samples, not less than five pounds weight, of the wick so prepared, to be produced to the Society, with certificates that the whole quantity is equal in quality to the sample, on or before the second Tuesday in Jan. 1805.

151. PAPER FROM RAW VEGETABLE SUBSTANCES. To the person, in Great-Britain, who shall, between the first of January, 1804, and the first of January, 1805, make the greatest quantity, and of the best quality (not less than ten reams), of good and useful paper, from raw vegetable substances, the produce of Great-Britain or Ireland, of which one hundred weight has not been used in manufacturing paper previous to January, 1803, superior to any hitherto manufactured from such substances, and which can be generally afforded as cheap as paper of equal quality and appearance now made from rags; twenty guineas.

N.B. The object of the Society being to add to the number and quantity of raw materials used in this manufacture, it is their wish to include every useful sort of paper, and to introduce such natural products as can be easily and cheaply procured in great quantities. The Society are in possession of two volumes containing a great variety of specimens of paper made from raw vegetable substances, viz.—nettles, potatoe-haum, poplar, hop-bines, &c. which volumes may be inspected by any person on application to the Housekeeper. Certificates of the making such paper, and one ream of the paper, to be produced on or before the last Tuesday in January, 1805.

152. TRANSPARENT PAPER. To the person who shall discover to the Society a method of making paper from the pulp that shall be perfectly transparent, and of a substance and body equal to foolscap, that shall take and bear common writing ink with the same facility and correctness as writing-paper generally in use; the silver medal, or twenty guineas. Certificates of the making such paper, an account of the process, and one ream of the paper, to be produced on or before the second Tuesday in January, 1805.

153. CHINTS PATTERNS FOR CALICO-PRINTERS. For the best original pattern in a new taste, of light or dark-ground chints for garment-work, fit for the purposes of calico-

printers, by persons of either sex; the gold medal. To be produced to the Society on or before the second Tuesday in January, 1805; the pattern to which the premium is adjudged to remain the property of the Society.

154. For the next in merit; the silver medal, on similar conditions.

155. COPPER-PLATE PATTERNS FOR CALICO-PRINTERS. For the best pattern, in a new style, fit for the purposes of calico-printers for garment-work; the silver medal. To be produced to the Society on or before the second Tuesday in January, 1805. The pattern to which the premium is adjudged to remain the property of the Society.

#### PREMIUMS IN MECHANICS.

156. GUNPOWDER-MILLS. To the person who, in the year 1804, shall invent and bring to perfection the most effectual method of so conducting the works of gunpowder-mills, in the business of making gunpowder, as to prevent explosion; the gold medal, or one hundred guineas. *Certificates* and *accounts* of the method having been put in practice in one or more gunpowder-mills in this kingdom, and that it promises, in the opinion of the best judges concerned in such works, to answer the purpose intended, to be produced to the Society on or before the first Tuesday in Feb. 1805.

N.B. As an encouragement to persons to turn their thoughts to improvements of this nature, if any should be made on the present method of conducting the business of gunpowder making, which tall short of the total prevention of explosion, and they are sent to the Society for the sake of humanity, the papers so sent in will receive due consideration, and such bounty or reward will be bestowed thereon as they appear to merit.

157. TRANSIT-INSTRUMENT. To the person who shall invent and produce to the Society a cheap and portable transit-instrument, which may easily be converted into a zenith-sector, capable of being accurately and expeditiously adjusted, for the purpose of finding the latitudes and longitudes of places, and superior to any portable transit-instrument now in use; the gold medal, or forty guineas. To be produced on or before the last Tuesday in Jan. 1805.

158. TAKING WHALES BY THE GUN-HARPOON. To the person who, in the year 1804, shall strike the greatest number of whales, not fewer than three, with the gun-harpoon; ten guineas. Proper *certificates* of the striking such whales, and that they were actually taken in the year 1804, signed by the master, or by the mate when the claim is made by the master, to be produced to the Society on or before this last Tuesday in December, 1804.

159. FAMILY MILL. To the person who shall invent and produce to the Society the best

constructed mill for grinding corn for the use of private families, or parish-poor; the construction to be such as to render the working of the mill easy and expeditious, and superior to any hitherto in use; the gold medal, or thirty guineas. The mill, and *certificates* of its having been used to good effect, to be produced to the Society on or before the first Tuesday in Feb. 1805. Cheapness and simplicity will be considered as essential parts of its merit; and the mill, or the model, to remain with the Society.

160. MACHINE FOR RAISING COALS, ORE, &c. &c. To the person who shall invent a machine for raising coals, ore, &c. from mines, superior to any hitherto known or in use, and which shall produce the effect at a less expense than those already known or in use; the gold medal, or fifty guineas. A model of the machine, made on a scale of not less than one inch to a foot, with a *certificate* that a machine at large on the same construction has been advantageously used, to be produced to the Society on or before the second Tuesday in Feb. 1805.

161. IMPROVED WALKING-WHEEL OR CRANE. To the person who shall invent an improved walking-wheel or crane, on which the weight and power of any person or persons shall be applied with the greatest safety and effect, and so contrived that the power can be varied according to the greater or lesser weight to be raised or lowered; the gold medal, or thirty guineas. The model, on a scale of not less than one inch to a foot, with a proper *certificate* that the machine at large has been employed to good effect, to be produced to the Society on or before the second Tuesday in February, 1805.

162. MACHINE FOR RAISING WATER. To the person who shall invent a machine on a better, cheaper, and more simple construction than any hitherto known or in use, for raising water out of wells, &c, from a depth of not less than fifty feet; the gold medal, or forty guineas. *Certificates* of the performance of the machine, and a model of it, on a scale of not less than one inch to a foot, to be produced to the Society on or before the first Tuesday in February, 1805.

163. ELM PIPES. To the person who shall invent and discover to the Society a substitute for the elm pipes now in common use for the conveyance of water, which shall be cheaper, equally effectual, and more durable than any heretofore employed; the gold medal, or thirty guineas. It is required that one of the pipes so employed, an accurate *account* of the method used, and every expense attending it, together with satisfactory accounts of its being effectual, be delivered to the Society on or before the second Tuesday in January, 1805.

164. EXTINGUISHING FIRES. To the person who shall produce to the Society the best and most effectual method of procuring an impo-

diate supply of water in case of fire, or for the means best calculated to prevent or extinguish accidental fires in buildings, superior to any now in use; the gold medal, or thirty guineas. *Certificates* of the method having been practised with success, with a full description thereof, to be delivered to the Society on or before the second Tuesday in Jan. 1805.

165. BORING AND BLASTING ROCKS. To the person who shall discover to the Society a more simple, cheap, and expeditious method than any hitherto known or in use of boring and blasting rocks in mines, shafts, wells, &c.; the gold medal, or thirty guineas. *Certificates* of the method having been practised with success, with a full description thereof, to be delivered to the Society on or before the first Tuesday in January, 1805.

166. HEATING ROOMS FOR THE PURPOSES OF MANUFACTURERS. To the person who shall invent and discover to the Society a method of heating rooms, superior to any hitherto known or in use, and at a moderate expense, for the purposes of painters, japaners, and other manufacturers, so as to avoid the necessity of iron or copper tunnels going through the rooms to convey the smoke, whereby the danger from such tunnels may be prevented; the gold medal, or forty guineas. A model, or complete drawing and description of the method, with *certificates* that it has been successfully practised, to be delivered to the Society on or before the last Tuesday in March, 1805.

167. IMPROVED VENTILATION. To the person who shall invent and produce to the Society a mode of permanently ventilating the apartments in hospitals, workhouses, and other crowded places, superior to any now known or used; the gold medal, or fifty guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, with proper *certificates*, to be delivered to the Society on or before the last Tuesday in February, 1805.

168. PREVENTING ACCIDENTS FROM HORSES FALLING WITH TWO-WHEELED CARRIAGES. To the person who shall invent and produce to the Society a method superior to any hitherto known or in use, to prevent accidents from the falling of horses with two-wheeled carriages, especially on steep declivities; the silver medal, or fifteen guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, with proper *certificates* that the same has been used with success, to be delivered to the Society on or before the second Tuesday in January, 1805.

169. IMPROVING TURNPIKE AND OTHER ROADS. To the person who shall discover to the Society the most effectual and cheapest method, verified by actual experiments, of

combining the materials ordinarily employed in making or repairing roads, so as to form them of the hardest consistence by their cementing properties, or by an artificial mixture of earth, stones, &c. altered by heat or any other mode, so as to form an even, hard, and durable carriage-road, not liable to be injured by heat or rain; the gold medal, or fifty guineas. It is required that an accurate account of the method used, and every expense attending it, together with satisfactory *certificates* of its being effectual, be delivered to the Society on or before the first Tuesday in March, 1805.

170. CLEANSING CHIMNIES. To the person who shall invent and produce to the Society the most effectual mechanical or other means for cleansing chimnies from soot, and obviating the necessity of children being employed within the flues; the gold medal.

171. For the next in merit; the silver medal. The mechanical, or other means, with *certificates* of their having been used with proper effect, to be produced to the Society on or before the first Tuesday in January, 1805.

172. CHIMNIES CLEANSED. To the person who shall during the year 1804 cleanse, or cause to be cleansed, the greatest number of chimnies, at least two stories high, not fewer than three hundred, by any mechanical or other process, which does not require the employment of boys within the flues; the gold medal. *Certificates*, signed by not less than two-thirds of those housekeepers on whose premises the said means have been employed, and an account of the process, to be produced to the Society on or before the first Tuesday in February, 1805.

173. To the person who shall cleanse, or cause to be cleansed, the next greatest number of chimnies, not fewer than one hundred and fifty, upon similar conditions to the above; the silver medal.

174. RAISING THE BODIES OF PERSONS WHO HAVE SUNK UNDER WATER. To the person who shall invent and produce to the Society a cheap and portable drag, or other machine, superior to those now in use, for the purpose of taking up in the best and most expeditious manner, and with the least injury, the bodies of persons who have sunk under water; the gold medal, or thirty guineas. The drag, or machine to answer the purpose intended, to be produced to the Society, on or before the first Tuesday in March, 1805.

#### PREMIUMS OFFERED FOR THE ADVANTAGE OF THE COMMERCE OF THE UNITED EMPIRE.

175. TAKING PORPOISES. To the people in any boat or vessel, who, in the year 1804, shall take the greatest number of porpoises on the coast of Great-Britain or Ireland, by gun,



harpoon, or any other method, not fewer than thirty, for the purpose of extracting oil from them; the gold medal, or thirty pounds. *Certificates* of the number, signed by the persons to whom they have been sold or delivered for the purpose of extracting the oil, to be produced to the Society on or before the last Tuesday in January, 1805.

176. OIL FROM PORPOISES. To the person who shall manufacture the greatest quantity of oil from porpoises taken on the coast of Great-Britain or Ireland, in the year 1804, not less than twenty tons; the gold medal, or thirty pounds. *Certificates* of the oil having been made from porpoises actually caught on the coast of Great-Britain or Ireland, and two gallons of the oil as a sample, to be produced to the Society on or before the last Tuesday in February, 1805.

177. CURING HERRINGS BY THE DUTCH METHOD. To the person or persons who shall, before January, 1805, cure the greatest quantity of white herrings, not less than thirty barrels, according to the method practised by the Dutch, and equal in all respects to the best Dutch herrings, the same being caught in the British or Irish Seas, and cured in a British or Irish vessel or port; the gold medal, or fifty guineas.

178. For the next greatest quantity, not less than fifteen barrels; the silver medal, or twenty guineas. A sixteen-gallon barrel of the herrings to be produced to the Society on or before the first Tuesday in February, 1805, with *certificates* that the conditions of the premium have been completely fulfilled, and that the whole were cured in the same manner as the specimen, together with a full description of the process employed, in order that the Society may judge how far the Dutch method has been adopted.

#### PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH COLONIES.

179. NUTMEGS. For the greatest quantity of merchantable nutmegs, not less than ten pounds weight, being the growth of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several Islands adjacent thereto, and equal to those imported from the Islands of the East Indies; the gold medal, or one hundred guineas. Satisfactory *certificates*, from the governor, or commander in chief, of the place of growth, with an account of the number of trees, their age, nearly the quantity of fruit on each tree, and the manner of culture, to be produced on or before the first Tuesday in December, 1804.

180. The same premium is extended one year farther. *Certificates* to be produced on

or before the first Tuesday in December, 1805.

181. CLOVES. For importing into Great Britain or Ireland, in the year 1804, the greatest quantity of cloves, not less than twenty pounds weight, being of the growth of some of the islands in the West Indies subject to the British empire, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, and equal in goodness to the cloves brought from the East Indies; the gold medal, or fifty guineas. Samples, not less than two pounds weight, with *certificates* that the whole quantity is equal in goodness, together with satisfactory *certificates*, signed by the governor, or commander in chief, of the place of growth, with an account of the number of trees growing on the spot, their age, and the manner of culture, to be produced to the Society on or before the first Tuesday in January, 1805.

182. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in January, 1806.

183. KALI FOR BARILLA. To the person who shall have cultivated, in the Bahama Islands, or any other part of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, in the year 1805, the greatest quantity of land, not less than two acres, with Spanish kali, fit for the purpose of making barilla; the gold medal, or thirty guineas.

184. For the next greatest quantity, not less than one acre; the silver medal, or fifteen guineas. *Certificates*, signed by the governor, or commander in chief, for the time being, of the quantity of land so cultivated, and of the state of the plants at the time of signing such *certificates*, to be delivered to the Society, with samples of the kali, on or before the second Tuesday in January, 1805.

185, 186. The same premiums are extended one year farther. *Certificates* to be produced on or before the second Tuesday in Jan. 1806.

187. DESTROYING THE INSECT COMMONLY CALLED THE BORER. To the person who shall discover to the Society an effectual method of destroying the insect commonly called the borer, which has, of late years, been so destructive to the sugar-canes in the West-India islands, the British settlements on the coast of Africa, and the several islands adjacent thereto; the gold medal, or fifty guineas. The discovery to be ascertained by satisfactory *certificates*, under the hand and seal of the governor or commander in chief, for the time being, and of some other respectable persons, inhabitants of the islands, or other place, in which the remedy has been successfully applied; such *certificates* to be delivered to the Society on or before the first Tuesday in January, 1805.

188. **CULTIVATION OF HEMP IN UPPER AND LOWER CANADA.** To the person who shall sow with hemp the greatest quantity of land in the province of Upper Canada, not less than six arpents (each four-fifths of a statute acre), in the year 1804, and shall at the proper season cause to be plucked the summer hemp (or male hemp bearing no seed) and continue the winter hemp (or female hemp bearing seed) on the ground until the seed is ripe; the gold medal, or one hundred dollars.

189. To the person who shall sow with hemp the next greatest quantity of land in the same province of Upper Canada, not less than five arpents, in the year 1804, in the manner above mentioned; the silver medal, or eighty dollars.

190. For the next greatest quantity of land, in the same province, and in a similar manner, not less than four arpents; sixty dollars.

191. For the next greatest quantity of land, in the same province, and in a similar manner, not less than three arpents; forty dollars.

192. For the next greatest quantity of land, in the same province, and in a similar manner, not less than one arpent; twenty dollars. *Certificates* of the number of arpents, the method of culture, of the plucking of the hemp, with a general account whether sown broad-cast or in drills, the expense, soil, cultivation, and produce, to be transmitted to the Society, certified under the hand and seal of the governor or lieutenant-governor, together with 28lb. of the hemp, and two quarts of the seed, on or before the last Tuesday in November, 1805.

193, 194, 195, 196, 197. The same premiums are extended one year farther. *Certificates*, &c. as before mentioned, to be transmitted to the Society on or before the last Tuesday in November, 1806.

198 to 208. Premiums exactly similar in all respects to those held out for the province of Upper Canada, are also offered for the province of Lower Canada, and are extended to the same period.

209. **IMPORTATION OF HEMP FROM CANADA.** To the master of that vessel, which shall bring to this country the greatest quantity of marketable hemp, not less than one hundred tons, in the year 1804, the produce of Upper or Lower Canada; the gold medal,

210. To the master of that vessel which shall bring the next quantity, not less than fifty tons; the silver medal. *Certificates* satisfactory to the Society to be produced by the master of the vessel on or before the first Tuesday in February,

1805, to testify that such hemp was grown and prepared in Canada.

211, 212. The same premiums are extended one year farther. *Certificates* to be produced on or before the first Tuesday in February, 1806.

#### PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH SETTLEMENTS IN THE EAST INDIES.

213. **BHAUGULPORE COTTON.** To the person who shall import into the port of London, in the year 1804, the greatest quantity, not less than one ton, of the Bhaugulpore cotton, from which cloths are made in imitation of nankeen, without dyeing; the gold medal. A quantity of the cotton, not less than five pounds weight in the pod, and five pounds carded, to be produced to the Society, with proper *certificates*, signed by the Secretary to the Board of Trade of Bengal or Bombay, on or before the last Tuesday in February, 1805.

214. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1806.

215. **ANNATTO.** To the person who, in the year 1804, shall import into the port of London, from any part of the British settlements in the East Indies, the greatest quantity of annatto, not less than five hundred weight; the gold medal. A quantity of the annatto, not less than ten pounds weight, to be produced to the Society, with proper *certificates*, signed by the Secretary of the Board of Trade of the respective settlement, that the annatto is the produce of such settlement, on or before the last Tuesday in February, 1805.

216. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1806.

217. **TRUE COCHINEAL.** To the person who, in the year 1804, shall import into the port of London, from any part of the British settlements in the East Indies, the greatest quantity of true cochineal, not less than five hundred weight; the gold medal. A quantity of the cochineal, not less than ten pounds weight, with proper *certificates*, signed by the Secretary of the Board of Trade of the respective settlement, that the cochineal is the produce of such settlement, to be produced to the Society on or before the first Tuesday in February, 1805.

218. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in February, 1806.

#### CONDITIONS FOR THE POLITE ARTS.

No person who has gained the first premium in any class shall be admitted a candidate in a class of an inferior age; and no candidate shall receive more than one premium in one year; nor shall they, who for two successive years have gained the first premium in one class, be again admitted as candidates in that class.

No person shall be admitted a candidate in any class, who has three times obtained the first premium in that class.

No more than one performance in any class shall be received from the same candidate.

All performances (to which premiums or bounties are adjudged) shall remain with the Society till after the public distribution of rewards in May, when they will be re-delivered, unless mentioned in the Premiums to the contrary.

No performance shall be admitted, that has obtained a premium, reward, or gratification, from any other society, academy, or school, or been offered for that purpose.

All performances that obtain premiums in the Polite Arts must have been begun after the publication of such premiums, except line engravings.

To encourage real merit, and prevent attempts to impose on the Society, by producing drawings made or retouched by any other person than the candidate, the Society require a specimen of the abilities of each successful candidate, under the inspection of the Committee of Polite Arts, in every instance where such proof may appear necessary.

All candidates in the Polite Arts are required to signify, on their drawings, their age; and whether the performances are originals or copies; and if copies, whence they were taken.

SOCIETY'S OFFICE, ADELPHI, JUNE 1st, 1804.

#### ORDERED,

That the several Candidates and Claimants, to whom the Society shall adjudge Premiums or Bounties, do attend at the Society's Office in the Adelphi, on the last Tuesday in May, 1805, at Twelve o'Clock at Noon precisely, to receive the same; that day being appointed by the Society for the Distribution of their Rewards: And before that time no Premium or Bounty will be delivered, excepting to those who are about to leave the Kingdom.

In Cases where the Society may think fit to admit excuses for not attending in Person, Deputies may be substituted to receive the Rewards, provided such Deputies are either Members of the Society, or the superior Officers thereof.

#### GENERAL CONDITIONS.

As the great object of the Society in rewarding individuals is to draw forth and give currency to those inventions and improvements, which are likely to benefit the public at large, candidates are requested to observe, that if the means, by which the respective objects are effected, do require an expense or trouble too great for general purposes, the Society will not consider itself as bound to give the offered reward; but, though it thus reserves the power of giving in all cases such part only of any premium as the performance shall be adjudged to deserve, or of withholding the whole if there be no merit, yet the candidates may be assured the Society will always judge liberally of their several claims.

It is required, that the matters for which premiums are offered, be delivered in without names, or any intimation to whom they belong; that each particular thing be marked in what manner each claimant thinks fit, such claimant sending with it a paper sealed up, having on the outside a corresponding mark, and on the inside, the claimant's name and address; and all candidates are to take notice, that no claim for a premium will be attended to, unless the conditions of the advertisement are fully complied with.

No papers shall be opened, but such as shall gain premiums, unless where it appears to the Society absolutely necessary for the determination of the claim; all the rest shall be returned unopened with the matters to which they belong, if inquired after by the mark, within two years.

All models of machines, which obtain premiums or bounties, shall be the property of the Society; and, where a premium or bounty is given for any machine, a perfect model thereof shall be given to the Society.

All the premiums of this Society are designed for Great-Britain and Ireland, unless expressly mentioned to the contrary.

The claims shall be determined as soon as possible after the delivery of the specimens.

It is expected that all articles for claims or bounties be sent to the Society carriage paid.

No person shall receive any premium, bounty, or encouragement, from the Society, for any matter for which he has obtained, or purposes to obtain, a patent.

A candidate for a premium, or a person applying for a bounty, being detected in any disingenuous method to impose on the Society, shall forfeit such bounty, and be deemed incapable of obtaining any for the future.

No member of this Society shall be a candidate for, or entitled to receive, any premium, bounty, or reward, whatsoever, except the honorary medal of the Society. The candidates are, in all cases, expected to furnish a particular account of the subject of their claims; and where certificates are required to be produced in claim of premiums, they should be expressed, as nearly as possible, in the words of the respective advertisements, and be signed by persons who have a positive knowledge of the facts stated.

Where premiums or bounties are obtained in consequence of specimens produced, the Society

mean to retain such part of those specimens as they may judge necessary, making a reasonable allowance for the same.

No candidates shall be present at any meetings of the Society or committees, or admitted at the Society's rooms, after they have delivered in their claims, until such claims are adjudged, unless summoned by the committee.

N. B. The Society farther invite the communications of scientific and practical men upon any of the subjects for which premiums are offered, although their experiments may have been conducted upon a smaller scale than the terms of each require, as they may afford ground for more extensive application, and thus materially forward the views of the Society, and contribute to the advantage of the public. Such communications to be made by letter, addressed to the Society, and directed to Mr. CHARLES TAYLOR, the Secretary, at the Society of Arts, Adelphi, London.

The models required by the Society should be upon the scale of one inch to a foot. The Winchester bushel is the measure referred to for grain; and, as the acres of different districts vary in extent, it is necessary to observe, that the Society mean Statute Acres of five and a half yards to the rod or pole, when acres are mentioned in their list of premiums; and they request that all communications to them may be made agreeably thereto.

The Society desire that the Papers on different subjects sent to them may be full, clear, explicit, fit for publication, and rather in the form of Essays than of Letters; and where descriptive Drawings can be conveniently sent, with the Models and Machines laid before the Society, it is recommended to be done.

Presents to the Society of Books for their Library will be thankfully received.

\* \* To persons inclined to leave a sum of money to this Society by will, the following form is offered for that purpose.

Item. I give and bequeath to A. B. and C. D. the sum of \_\_\_\_\_ upon condition and to the intent that they, or one of them, do pay the same to the Collector, for the time being, of a Society in London, who now call themselves the Society for the Encouragement of Arts, Manufactures, and Commerce; which said sum of \_\_\_\_\_ I will and desire may be paid out of my personal estate, and applied towards the carrying on the laudable designs of the Society.

By Order of the Society.

CHARLES TAYLOR, Secretary.

N. B. The Society for the Encouragement of Arts, &c. considering that it would be beneficial to the Commerce of the United Kingdom, to bring the British Marbles into more general use, and that the most effectual method of accomplishing their object would be, for the present, to make them more generally known in the capital, have come to the following resolutions:—

Resolved,—That specimens of British Marbles be exposed in the Society's Rooms at the Adelphi for the inspection of the Public, under the following regulations:

1st, That all specimens be exact to a given size, viz. eight inches high, six inches broad, one inch thick, and polished on one face.

2d, That a book be kept containing the number of each specimen, and describing the situation of the quarry, the name of the parish where situated, the distance of the quarry from a beaten road, and the distance of that road from water-carriage, with the name of the donor and proprietor. Any remarks on the qualities of the marbles, or on the lime produced from them, will be gratefully received and preserved by the Society, as materials for future inquiries.

Resolved,—That as the exertions of the Society can only be beneficial to the public, inasmuch as their views are seconded by the public, the Society request, that all persons, proprietors of marble quarries, will favour them with a specimen of the marble, worked to the exact size above mentioned, with the description of the quarry as above, that the same may be entered in the book to be preserved for the use of the public.

### *Society of Arts, Manufactures, and Commerce, Adelphi.*

ON Tuesday the 29th of May, 1804, the Rewards of the Society were, as usual, distributed by his Grace the Duke of Norfolk, arranged under the following classes; and on Wednesday the 6th of June the Society held the last Meeting of that Session, and adjourned to the fourth Wednesday in October next.

#### IN AGRICULTURE.

To J. C. Curwen, Esq. M.P. of Belle-isle, Wingham, for planting 814,956 timber-trees, class 23, the gold medal.

To J. Borron, Esq. Warrington, for planting 600,000 osiers, class 14, the gold medal.

To Thos. Plowman, Esq. Broome, in Norfolk, for an improved sheepfold, the gold medal.

To J.C. Curwen, Esq. M.P. Belle-isle, Winandermere, for drains extending 6000 yards, the gold medal.

To Mr. William Watson, North Middleton, near Belford, Northumberland, for the comparative culture of turnips, the silver medal.

To John Hutton, Esq. Marske, near Richmond, Yorkshire, for planting 19 acres with forest-trees, the silver medal.

To Mr. William Pearce, Landewednack, near Helston, Cornwall, for unremitting industry, the silver medal and 15 guineas.

To Mr. John Shirreff, Captain-Head, for preserving turnips in winter, class 51, 30 guineas.

#### IN CHEMISTRY.

To Sir H. Englefield, Bart. Tilney-street, for lake from madder, the gold medal.

To Dr. William Dyce, Aberdeen, for a mine of manganese, the gold medal.

To Mr. Matthew Gregson, Liverpool, for useful applications of burnt articles, the gold medal.

To J. Machlachlan, Esq. Calcutta, for accounts of the Eastern red dyes, and mineral products, the silver medal.

#### IN POLITE ARTS.

To Miss Elizabeth Penman, Glasgow, the gold medal.

To Miss Elizabeth Crutwell, Hammersmith, the silver medal.

To Miss Harriet Gough, Pontatawce Cottage, near Neath, Glamorganshire, the silver medal.

To Miss Grindall, Lower Brook-street, Grosvenor-square, the silver medal.

To Miss Sophia Charlotte Day, Lower Bryanstone-street, Portman-square, the silver medal.

To Miss Spurgeon, Lowestoft, Suffolk, the silver medal.

To Miss Andree, Hatton-Garden, the silver medal.

To John Churchman, Esq. the silver medal.

To Miss Matilda Lowry, Titchfield-street, the gold medal.

To Mr. George Shepherd, Ratcliffe-row, City-road, the greater silver medal.

To Mr. Henry Corbould, John-street, Fitzroy-square, the gold medal.

To Mr. W. He-seltine, Bromley, near Bow, the greater silver medal.

To Mr. G. Jones, Great Portland-street, the lesser silver medal.

To Mr. Middiman, Lower Grafton-street, the gold medal.

To Mr. Henry Hale, Liverpool, the gold medal.

To Mr. Richard Austin, jun. Paul's-alley, Barbican, the greater silver medal.

To Mr. J. Carey, the gold medal.

To Mr. J. S. Halfpenny, Stafford-place, Pimlico, the greater silver medal.

To Mr. H. D. Thielcke, Stafford-place, Pimlico, the lesser silver medal.

#### IN MANUFACTURES.

To Mr. James Birch, Tavistock-Mews, Tavistock-street, Tottenham-court-road, for an improved swivel-loom, 25 guineas.

To Mr. James Pickard, Skinner-street, Bishopsgate-street, for an improved engine-loom, 20 guineas.

#### IN MECHANICS.

To the Rev. D. Pape, Penn, near Wolverhampton, for improving Rye Harbour, the gold medal.

To Capt. Brodie, Royal Navy, Leith, for marine improvements, the gold medal.

To Mr. R. Seppins, Chatham-yard, for obviating the necessity of lifting ships, the gold medal.

To Mr. George Walby, Goswell-street, for a hammer for making trowels, the silver medal and 40 guineas.

To Mr. George Dodd, Duke-street, Portland-place, for an improved gun-lock, the silver medal and 10 guineas.

To Mr. James Rawlinson, Derby, for an improved colour-mill, the silver medal and 10 guineas.

To the Chevalier Edelcrantz, of Sweden, for a safety valve for steam-engines, the silver medal.

To Mr. J. M. Elliot, Little Castle-street, for an improved repeating watch, 30 guineas.

To Mr. W. Hardy, Chapel-street, for a method of banking the balance of a time-keeper, 30 guineas.

To Mr. Thomas Holden, of Petworth, in Sussex, for a machine to do all the thread-work in shoemaking standing, 15 guineas.

#### IN COLONIES AND TRADE.

To J. W. Clarke, Esq. Montreal, for the culture of hemp, the gold medal.

To Mr. Jacob Schneider, York, Upper Canada, for the culture of hemp, class 188, the gold medal, or 100 dollars.

To Mr. Daniel Mosher, Kingston, Upper Canada, for the culture of hemp, class 189, the silver medal, or 80 dollars.

To Walter Baine, Esq. Greenock, for curing white herrings, the silver medal.

*The Number of Noblemen, Ladies, and Gentlemen, elected Members since October last, is 115.*

## CRITICAL CATALOGUE.

*General View of the Agriculture of Hertfordshire. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement, By the Secretary of the Board.*

“**H**ERTFORDSHIRE, or Hartfordshire, is an inland county, bounded by Bedfordshire and Cambridgeshire towards the North and West, Buckinghamshire towards the West, Essex towards the East, and Middlesex towards the South; and situated between the parallels of 51 degrees 37 minutes, and 52 degrees 5 minutes north latitude. According to Halley, it contains 451,000 acres. It measures 28 miles from East to West, 36 miles from North to South, and 130 miles in circumference.”

This county is divided into the eight hundreds of Odsey, Edwintree, Broadwater, Hitchin, Dacorum, Cashio, Hertford, and Braughin. It contains 18 market-towns and 120 parishes.

The climate is not considered to be materially different from other counties equally southern.

The soils of this county are loam, clay, chalk, and gravel; but they mix and run into each other in a very remarkable manner. On entering the county from Hockwill, at Sawbridgworth, Gilston, and Widford, clay or strong loam prevails; but in the vales, a drier loam, on a gravelly bottom. In the angle of the county formed by Hockwill, Ware, and Buntingford, the vales and slopes every where contain good loam on gravel and chalk, but the tops of the hills consist invariably of strong loam, or of clay, partly wet and partly drained. At Little Hadham, a strong loam, very wet, and not drained, upon a clay-marle bottom, exactly like the Suffolk loam. From Puckridge to Buntingford, the soil consists of a fine, rich, deep loam on chalk. Chalk is the basis of the whole county, and is universally found in digging wells. According to a map of the county, carefully measured, Hertfordshire, contains 472 square miles, of which 73 are chalk, 141 clay, 8 rich loam, 223 loam, and 27 poor gravel.

The principal rivers in Hertfordshire are the Lea and Colne, which are composed of many inferior streams, most of whose sources lie within the county, and join the principal rivers at different distances from their source. The Grand Junction Canal, from Braunston Wharf, on the Coventry Canal, to Old Brentford, where it joins the Thames, enters the county of Hertford above Berkhamsted, and follows the course of the Bulburn and Gade to Rickmersworth, and from thence the course of the Colne, till it leaves the county. The barges on this canal carry 60 tons, and their construction costs 262l. 10s. They are navigated by a bargeman and his boy, and one other man, with three horses: the bargeman and boy cost 2l. 12s. 6d. a week; the man, 17s. A voyage takes ten days; locks and dues on a load of manure amount to 5l. Hay pays three farthings a mile per ton; corn and other goods 1 1/4d.

Property in Hertfordshire is much divided. About 7000l. a year is the largest estate in the county: there are six or seven from 3 to 4000l.; more of about 2000l.; and below that some of every value. Freehold estates have of late sold at 28 years purchase. A large portion of the county is held by copyhold tenure, with a fine certain, of

at the will of the lord; but which fine never exceeds two years rent. Such land sells at about six years purchase under the price of freehold.

The hay and straw being carried by the farmer to London, from every part of the county, and cattle not being a principal part of their husbandry, farm-yards and buildings do not make a great figure here. The cottages have no where any land, more than the small amount of insufficient gardens. The farms are in general small. Not one in the county exceeds 1000 acres, and 500 form a large one. The size most common is from 150 to 400, but there are many much smaller.

The average rent of the county is estimated at 15s. per acre. The payment of tithes in kind is not at all practised. The average of the composition 3s. 5d. per acre.

The manufactures of this county are singularly beneficial, especially that of plaiting straw; yet the poor rates are high. At Ware and Thundridge, on an average of ten years preceding 1800, they were 3s. 6d. to 4s. in the pound. In 1800, 6s.; and in 1801, 8s. 6d. At Bengo, 15s; and at Sacomb and Little Munden, 16s. and 17s.

In that division of the county where the soil is strong, leases, from ten to fifteen years are granted; but, in the greater part of the county, leases are not granted at all.

"The great Hertfordshire wheel-plough," says our author, "is an implement in favour of which the farmers in this county are much prejudiced, and for one operation with reason—that of breaking up strong flinty fallows in a dry season. For this work of difficulty they are well calculated, from their great length of beam, sole, and share, which last has a long stout point, exceedingly well calculated for making way amongst flints. I am of opinion that this plough will do such work, at times when few others would stir in such land at all. But here ends the merit; for all other works it is a heavy, ill-formed, and ill-going plough. The faults are numerous; heavier than necessary for every other work, they are all so pitched, that the ploughman universally walks on the unploughed land, resting nearly all his weight on the handles, his body moving in angle of forty-five degrees with the horizon. It is easy to imagine what a system of labour to the horses such a counteraction of powers must necessarily occasion; it is evident that they do labour much, even on a loose turnip soil, merely by means of the absurd construction and weight of the plough. The share, joint, and fin (which latter is placed on very backward, to enable the point to work among the stones), are at unequal levels; three or four inches of the furrow next the unploughed land, are cut three inches deeper than the rest of it; so that when I have turned away the stirred moulds, in order to examine the unploughed land beneath, it is found all in grooves and ridges. Worse work can scarcely be imagined, while the surface is left apparently very well and neatly ploughed. Wheel-ploughs that will not go without holding, must be defective in construction. This plough will not move in its work one yard without the ploughman; a decisive proof of its miserable construction."

Enclosing appears to have gone on as well in Hertfordshire as could reasonably be expected in a county so generally enclosed in former times. There remains, however, much to be done in the northern

part; with extensive commons in the western district, and scattered common fields in many other parts.

The plashing system is understood and practised uncommonly well in this county. The hedges, in many parts of the county, are not only fences, but good fences, when tolerably preserved, without the aid of ditches. A thorough good ditch is not to be found in the county, except some which the reporter made about thirty years ago.

Turnips and clover are supposed to have been introduced into this county in the time of Oliver Cromwell, who gave 100*l.* a-year on that account to a farmer of the name of Howe.

By far the greater part of Hertfordshire is under tillage, for which, indeed, the county has long been celebrated. The common depth of ploughing about Westmill, is four or five inches; but some farmers plough as deep as the staple will admit of. The price of ploughing varies from 11*s.* to 20*s.* an acre.

The fallow system is not much pursued in this county. The rotation of crops varies much in different parts of the county. The following seems among the most common:—fallow, ploughed four times; wheat; clover; barley, on three earths; pease.

A Mr. Leach, of this county, has bought smutty wheat, to sow for curiosity, and even the worst which he could find: he steeped it six hours in a very strong brine, made to swim a large egg; he dried it with hot lime, and sowed it directly, and had no smut. The general practice in Hertfordshire, for the prevention of smut, is to pickle the seed. For a barley crop, the usual custom is to plough turnip land but once.—There are very few beans in the eastern parts of the county, and those but ill managed. In the parishes of Watford, Rickmansworth, and Busby, there are 3 or 400 acres of clay land without flints, in which the bean husbandry is practised in the course of fallow, wheat, beans; the latter being dibbled in across the lands by women, who do it by lines: the field is kept clean by hand hoeing, and produces, on an average of seven years, four quarters per acre. Between Elstree and Barnet also the same husbandry prevails. Very little buck wheat is found. Very few potatoes are cultivated, but the culture of this useful root seems rather on the increase. Turnips are much cultivated, but not in such perfection as might be expected. A general fault seems to be, that the cultivators hoe but once. The culture of Swedish turnips has so rapidly made its way in Hertfordshire, that they are to be found in the usual management of great numbers of the common farmers. Cabbages, carrots, parsnips, and beets, are occasionally cultivated. Clover has long been cultivated with great success and profit. In the heavy land districts, tares are very generally cultivated for soiling the teams; a practice that has been in use upwards of sixty years.—Lady Melbourne, at Brocket Hall, is one of the principal promoters of drill husbandry in this county, where, however, that system is but very little practised.

The quantity of grass land in Hertfordshire is extremely small, compared with that of arable land: there is no grass district in it; except a very narrow margin in the south line, in the vicinity of Barnet, which being near to London, is made artificially productive, by means of manures brought back by the hay-carts. Many of these fields let at 40*s.* 50*s.* and 60*s.* an acre.



"In the south-west corner of the county (says our author) and particularly in the parishes of Rickmersworth, Sarret, King's Langley, and Abbot's Langley, Flaunden, Bovington, and partly in Watford and Aldenham, there are many orchards: apples and cherries are their principal produce. Every farm has an orchard; but the larger the farm the smaller the orchard. Orchards are found chiefly in farms of from twenty to fifty acres. The apples are most profitable; but cherries very beneficial to the poor, in the quantity of employment which they require in gathering the crop, for which the poor are paid from 4d. to 8d. per dozen pounds."

The woods in the county between Hockerill, Ware, and Buntingford, are rented generally at about 12s. an acre, and cut at twelve year's growth, when the produce is about 9l. an acre. There are large tracts of wood-land to the south of Hertford, towards London; 2000 acres almost together. When let to tenants, they are cut at nine or ten year's growth, that they may be cut twice in a twenty-one year's lease. At twelve years they produce from 4l. to 12l., and are chiefly applied to the making of faggots.

The quantity of waste land in Hertfordshire is very inconsiderable. There are, however, some small commons scattered about, which would pay well for improving.

Hollow drains are well understood, and are much in use throughout the county. "Mr March," says the report, "drains much, at the expence of 45s. per acre, at the distance of one perch apart; he ploughs a very deep furrow, and then takes a spit from eighteen to twenty-two inches deep: he has also used the mole-plough with great success, for the drains have stood well five years. He put only four or six horses to it, which being far short of eight, ten, or twelve, used in common, I examined his plough, and found it with a gallows and wheels before, raised or sunk in work by an iron ring and chain from the carriage, raised or lowered by an iron pin in holes in the beam, like the great Hertfordshire common plough; it has also a short roller at the heel; thus the friction is doubly eased: the improvement is very important."

Paring and burning are not yet in general practice, but are likely to spread.

Manuring is attended to in the most spirited manner. The fossil manure of the district (chalk) and the expensive additions from London, are used on a very extensive scale. Bones and night-soil are found to have the most important effects on potatoe crops on a poor gravelly loam.

Hertfordshire affords great opportunities for the important work of irrigation? but it abounds also with so many mills, as to impede it greatly. 3s. 6d. per acre are given for draining and floating.

This county, being merely arable, has no breed of cattle of its own; consequently, those which are kept are of various sorts, according to the experience, fancy, or prejudice of their owners. The same remark applies to sheep.

The use of oxen in husbandry is not a common practice in any part of the county, a circumstance which throws much doubt upon the question of comparison as to which is the more beneficial team. In general, the difference appears to be one-fifth between the work of

oxen and that of horses in ploughing; four horses do five roods; four oxen one acre.

The average price of the county for labour now varies from 10s. to 12s. per week. About Watford, the winter wages have risen, in the last thirty-five years, from 6s. to 14s.

The only manufacture of importance, for the employment of the poor, in this county, is that of plaiting straw. At Redburn, where the manufacture is most prevalent, women will earn a guinea a week; and, at St. Alban's, there are women who will earn 5s. a-day. The farmers complain much of this, as making the poor laazy, and rendering it difficult to obtain servants.

We shall conclude this abstract, with quoting the following account of the Marchioness of Salisbury's experiment ground, one of the most interesting spectacles in Hertfordshire.

"It is a field of seventeen acres, thoroughly well fenced, surrounded with a margin of grass, and with two cross-walks, for the pleasing convenience of viewing the crops: they are well worth viewing, and do no slight honour to the talents of the cultivator. I here found

- 2 acres ploughed after early pease,
- 2 ——— lucerne,
- 7 ——— cabbages,
- 2 ——— carrots,
- 1 ——— mangel wurzel,
- 1½ ——— parsnips,
- 1½ ——— coleseed;

17

besides two pieces, one of turnip-cabbages for seed, the other mangel wurzel, which ground had yielded a crop of lettuces for hogs.

In 1795 this experiment ground was prepared.

1796. This year it produced red beets, mangel wurzel, parsnips, carrots, and cabbages.

1797. Half various sorts of cabbages, and half different roots.

1798. Where the cabbages had been last year, roots were grown, and after the roots of last year, cabbages.

1799. The same process was adopted of reversing the same crops.

1800. Ditto, with the addition of pease.

1801. As described above.

Lucerne was added in 1800.

"The cleanness of the crops, their flourishing luxuriance, and the general aspect of the whole, are truly pleasing. I could not, however, but regret that a register had not been kept of every crop, the expense, produce, and consumption per acre; this field would not then have yielded pleasure only, but an ample harvest of agricultural knowledge; and, with a few variations easy to have devised, would have produced a fund of important conclusions. The thought had great merit, and I cordially wish the field to be so productive of pleasure to its Mistress, as to give charms to the country, sufficient to rival the great foe to experiment—London."

We must just add, that the expense of cropping this field, in the year 1795, amounted to 135l. 10s. including the rent, at 30s. per acre. The produce was 598l.; consequently the profit was 462l. 10s.

# Agriculture.

## PROCEEDINGS OF AGRICULTURAL SOCIETIES.

### *Sussex Agricultural Meeting.*

**A**T a general meeting of the Subscribers of the Sussex Agricultural Society, to arrange the Prizes and Premiums for the present year, held at the White Hart Inn, Lewes, May 19, 1804,

The following Resolutions were agreed to,

I. That a Piece of Plate, be given to the owner of the best Bull, two years old.

II. That a Piece of Plate be given to the owner of the best Bull, three years old.

III. That a Piece of Plate be given to the owner of the best Bull, four years old or upwards.

A Piece of Plate, value 10l. was adjudged at the Shew of Cattle, in 1801, to Mr. Alfrey, of Frifton; the owner of the best Bull produced in the field, to be kept till such Piece of Plate shall be challenged by the owner of any other Bull. The challenge to be given on the day of the shew of cattle, and to be determined upon the next ensuing Day of Shew. The challenger to stake 5l. against the Piece of Plate, or to pay half forfeit; on giving one month's notice that he does not mean to shew to the holder of the Piece of Plate. This Piece of Plate was challenged on the last Day of Shew, by Mr. Purseglove, of Hursmonceux.

IV. That a Piece of Plate be given to the owner of the best Heifer, two years old.

V. That a Piece of Plate be given to the owner of the best heifer, three years old; that shall have produced a living calf between the 1st of January and the 1st of April preceding, and shall be in milk at the time of shew.

VI. That a Piece of Plate be given to the owner of the best Cow, four years old or upwards, under the same conditions as in the last article.

VII. That a Piece of Plate be given to the owner of the best yoke of working oxen, of the same age, from four to six years old.

No Bull, Heifer, Cow, or Ox, will be permitted to be shewn for the prizes but such as shall be led to the place of shew by a strong rope or chain, and shall be afterwards sufficiently secured, so as to prevent the possibility of breaking loose.

VIII. That a Piece of Plate be given to the owner of the best South Down Ram, one year old last lambing time.

IX. That a Piece of Plate be given to the owner of the best South Down Ram, two years old last lambing time.

X. To ditto, ditto, three years old.

XI. To ditto, ditto, two years old last lambing time, which shall have worked the year before in the flock, not less than one month in the autumn, and shall have returned to the flock on or before the 5th day of April, and shall have continued with the flock till the 1st day of July upon the Downs and arable land.

XII. That a Piece of Plate be given to the owner of the best South Down Ram, three years old last lambing time, under the same conditions as in the last article.

The fleeces of all the Rams shewn for the prizes must be produced.

XIII. That a Piece of Plate be given to the owner of the best pen of twelve South Down Ewes, viz. four of one year old, four of two years old, and four of three years old.

XIV. That Three Pounds be given to the owner of the second best pen of the same description.

XV. That Two Pounds be given to the owner of the third best.

The two and three years old ewes must have produced and reared a lamb which had not been weaned before the 24th day of June preceding the day of shew; and the ewes must have been kept with the flock-sheep till within three days of the shew.

XVI. That Two Pounds be given to the owner of the best South Down Ram Fleece, in weight and quality.

XVII. That One Pound be given to the owner of the second best.

No fleece to be permitted to be shewn for the prizes for fleeces, but such as are the produce of the Rams shewn for the South Down Ram Prizes. The candidates to send their fleeces, marked in the same manner as the Rams, to Mr. Whitfield's wool warehouse, three days before the day of shew, with their names affixed.

XVIII. That each candidate should produce certificates of the age, as near as possible, of his stock shewn; the pedigree, when it can be ascertained, with the name of the breeder, and an account of the manner in which the stock had been kept for the last four months preceding the day of shew; and also to conform to every other particular required by the Society in the foregoing resolutions.

XIX. That each candidate may shew cattle or sheep for all the prizes, but shall be entitled to no more than one prize for each sort of stock, i. e. for bull, heifers, cows, oxen, rams, not kept with the flock, Rams kept with the flock and ewes. And that no animal which has gained two prizes, shall be entitled to be shewn again for any of the above prizes.

XX. That no prize be awarded, unless the animal or animals shewn shall be deemed by the Judges to possess sufficient merit to be entitled to it.

XXI. That three Judges for the Cattle and three for the Sheep, be appointed by the Committee, who will meet on the 26th of July next, at the Star Inn, Lewes, at one o'clock, and that the Committee do consist of all the Subscribers.

XXII. That three Stewards be appointed for the management of the business, and that John Fuller, Esq. M. P. for Saxby, and Mr. Knight, be requested to undertake that office for the ensuing year.

### *Kent Society, for the Encouragement of Agriculture and Industry.*

AT the anniversary of this Society, holden at the Fountain Tavern, in the City of Canterbury, on the 1st of June, 1804.

The Right Hon. Lord SONDES, President, in the Chair.

The Resolution of the last Meeting, in regard to the proceedings of the *Essex Agricultural Society*, was taken into consideration and Resolved, That it appears to this Meeting, from the steps already taken by the Hon. the House of Commons, that any further proceedings of this Society are at present unnecessary.

The following Premiums were this day adjudged.

**CLASS I.—To Servants in Husbandry, for long and faithful service.**

*Married Servants.*—To Robert Tumber, all works to Mr. Thomas Castle, of Folkestone, 17 years. *Two Guineas.*

To Luke Langford, waggoner to Mr. Thomas Wootton, of Westbeer, 15 years. *Two guineas.*

*Single Servants.*—To William Martin, waggoner to Mrs. Burton of Warehorne, 8 years. *Two guineas.*

To William Beck, waggoner, to Mr. Tappenden, of Hothfield, 8 years. *Two guineas.*

To Sarah Windser, all works, maid to Mr. Windser, sen. of Tenterden, 21 years. *Two guineas.*

To John Fryer, all works, boy to Mr. Thomas Simmons, of Petham, 5 years, being his first service. *One guinea.*

**CLASS II.—To Labourers in Husbandry, for long service.**

To William Ashley, labourer to John Toker, Esq. of Olpringe, 36 years. *Two Guineas.*

To Stephen Chandler, labourer to Richard Peckham, Esq. of Beakesbourne, 34 years. *Two guineas.*

To Robert Cobb, labourer to Mr. Thomas Sutton, of Boughton Aluph, 31 years. *Two guineas.*

**CLASS III.—To Labourers in Husbandry, for having brought up large Families with the least assistance from their respective Parishes.**

To John Moore of Badlesmere, 12 children born, 10 brought up. *Two guineas.*

To Alexander Williams, of Bridge, 11 born, 10 brought up. *Two guineas.*

To Thomas Huckstep, of Preston next Wingham, 11 born, 9 brought up. *Two guineas.*

Resolved, That the Second Premium of Two Guineas, be given to Mr. Weeks, of Aspringe, for his Black Horse, being the only Horse produced.

N. B. No Bulls were shewn.

The following gentlemen were appointed officers for the year ensuing.

The Right Hon. Lord Sondes, re-elected President.

Henry Godfrey Faussett, Esq. re-appointed Deputy President.

General Harris and George May, Esq. Stewards.

Mr. Allen Grebell, re-appointed Treasurer and Secretary.

**COMMITTEE.**

Hon. George Watson, M. P.

Richard Milles,

Capt. Honywood,

Edw. Taylor,

William Hougham,

Rev. J. C. Beckingham,

Rev. Thos. Randolph,

Rev. Ralph Price,

John Lade,

James Tillard,

Robert Rich,

Thomas Gibbs Hilton,

Thomas Brett,

George Carter,

William Wightwick,

Edward Russell,

John Bays,

Thomas Castle,

Carr Culmer,

E. H. Sandys,

Pilcher Ralfe,

Thomas Neame,

Austin Neame,

John Cobb.

ALLEN GREBELL, Secretary.

*Herefordshire Agricultural Society.*

At a General meeting of this Society, held in Hereford, on Monday, June 4, 1804,

It was resolved,

That the premiums exhibited for this day be thus adjudged:

I. To Mr. Watkins, of Bricklop, for the best three years' old fine woolled Ram.

II. To J. Kedward, Esq. of Westhede, for best Yearling ditto.

III. To Mr. S. Tully, of Huntingdon, for best Yearling ditto.

IV. To J. Kedward, Esq. of Westhede, for second best ditto.

V. To Mr. Williams, of Kingwill, for best working Ox.

N. B. The Oxen to be exhibited for this premium in future, may be of any age, not exceeding five years and six months.

VI. To Mr. Williams, of Bricklop, for best Boar.

N. B. The Committee adjudged that the best Boars were exhibited by the Rev. Mr. Coke, of Lower Moor; but considered that gentleman as disqualified on this occasion, by having obtained a premium for a Boar last year.

VII. The best Cart Stallion was exhibited by Mr. Lewis, of Eaton Bishop, but the Owner was disqualified through want of due notice; and the Committee decided, that no other horse was exhibited which was worthy the premium.

It was also resolved, That no second premiums be awarded in future; and that no Sheep exhibited shall be allowed to be forced, by clipping or trimming.

It was also resolved, That the next General Meeting of this Society be held at the Crown Inn, in the Borough of Leominster, on Friday, the 29th instant, and that Silver Goblets, value 5l. 5s. each, be then awarded to the Exhibitors of

1. The best yearling Bull
2. The best three years old ditto.
3. The best yearling Heifer.
4. The best three years old ditto.

Gentlemen who have engaged, or who are willing to support the Leominster Meeting, are respectfully requested to send their names to the Secretary, for insertion in the Books of the Society.

*Hereford, June 5, 1804.*

JOHN DUNCOMBE, Sec.

### *Kimbolton Agricultural Society.*

At the Annual Meeting of this Society, held at the White Lion Inn, in Kimbolton, on Wednesday the 6th Day of June, 1804, the Premiums were adjudged as follows:

- For the best One-shear Ram, to Mr. Smith, of Stock Doyle.
  - For the second best ditto, to Mr. Billing, of Harrowden.
  - For the best Theave, to Mr. Bithray, of Stoke Mills.
  - For the second best ditto, ditto, ditto.
  - For the best One-shear Wether, grass fed, ditto, ditto.
  - For the second best ditto, ditto, ditto.
  - For the best Two-shear Wether ditto, ditto, ditto.
  - For the second best ditto, ditto, ditto.
  - For the best Bull, not exceeding two Years old, to Mr. James Morton, of Offord Darcey.
  - For the second best ditto, to Mr. Robins, of Risely.
  - For the best Heifer, not exceeding two Years old, to Mr. Day, of Spaldwick.
  - For the second best ditto, ditto, ditto.
  - For the best Boar, not exceeding eighteen Months old, to Mr. Tebbs, of Dean.
  - For the second best ditto, to Mr. Mason, of Wornditch.
  - To the best Ploughman, Mr. Wellstead's.
  - To the second best ditto, Mr. Mason's.
  - To Joseph Sharp, for bringing up a Family of six Children without Parochial Assistance, three Guineas.
  - To William Watts, for having lived 37 Years on the Farm in Saint Neots, now in the Occupation of Mr. Inkertole, three Guineas.
  - To William Colbert, for having worked 24 Years on the Farm at Offord Darcey, now in the Occupation of Mr. James Morton, two Guineas.
- Ordered, That the following Premiums be distributed at the next annual Meeting, which will be held at the White Lion Inn, in Kimbolton on the first Wednesday in June, 1805.
- |                              | £. | s. | d. |
|------------------------------|----|----|----|
| For the best One-shear Ram,  | 2  | 2  | 0  |
| For the second best ditto    | 1  | 1  | 0  |
| For the best Two-shear ditto | 3  | 1  | 0  |
- Ag. Mag. Vol. 10.*

For the second best ditto	2	2	0
For the best Theave	3	3	0
For the second best ditto	2	2	0
For the best One-shear wether	2	2	0
For the second best ditto	1	1	0
For the best Two-shear Wether, which shall have been fed on Grafs, Turnips, Coleseed, and other green Food, and Hay only	3	3	0
For the second best ditto	2	2	0
For the best Two-shear ditto, which shall have been fed by any other means	3	3	0
For the second best ditto	2	2	0
For the best Bull, not exceeding eighteen Months old	3	3	0
For the second best ditto	2	2	0
For the best Heifer, not exceeding eighteen Months old	3	3	0
For the second best ditto	2	2	0
For the best Boar, not exceeding eighteen Months old	2	2	0
For the second best ditto	1	1	0

The Cattle to be entered with Mr. Day, or some person appointed by him, at the White Lion Inn, Kimbolton, by Ten o'Clock in the Forenoon of the day of Shewing; and to be penned (under the direction of a person who will attend for that purpose) on the premises of his Grace the Duke of Manchester, and ready to be shewed by Eleven o'Clock.—The Premiums will be given to such Owners of Cattle as were the Breeders thereof only; of which, as well as of the Ages, satisfactory Proof must be given to the Committee.—The Rams and Theaves to be produced for Inspection in their Wool, and then to be shorn; and the Committee, in determining their Premiums, to take the Wool, as well as the Carcase, into Consideration.—All the other Sheep to be produced shorn.—No Animal to receive two Premiums from this Society, except the first Class of Two-shear Wethers; which, in case any Corn fed Wethers should be entered to be shewn, may be again shewn on the same day for the Premiums of that Class also.

To the Labourer in Husbandry who shall have brought up, or be then bringing up, the largest Family without Parochial Assistance	3	3	0
Ditto next largest ditto	2	2	0
To the Servant in Husbandry who shall have lived the longest Time with one Master, or on the same Farm	3	3	0
Ditto next longest ditto	2	2	0
To the Labourer in Husbandry who shall have lived the longest Time with one Master or Mistress, on the same Farm	3	3	0
Ditto next longest ditto	2	2	0

The Candidates for the Premiums to Labourers and Servants to deliver their Certificates to Mr. Day, or a person appointed by him, at the White Lion, in Kimbolton, by Ten o'Clock, as no Certificate is to be received after that Hour.—These Premiums to be determined under the same Rules and Regulations as in the former Year.

This Society to assemble at the White Lion Inn, in Kimbolton, on the Morning of the annual Meeting, at Ten o'Clock.—The Committees for determining the Premiums to be appointed at Eleven, and the Shew to take place at Twelve o'Clock; after which a Committee will be appointed for settling the Premiums and Rules for the ensuing Year, so that the whole of the Business may be finished before Dinner.

Published by Order of the Society,  
St. Neots, 20th June, 1804. WM. DAY, Treasurer and Secretary.

### Peterborough Agricultural Society.

AT a meeting of this Society, holden at the Angel Inn, on Wednesday the 6th inst.

A great number of very capital sheep and horses were shewn, and the following premiums decided and disposed of, viz.

Five guineas for the best two year old ram, to Mr. John Hicks, of Tanbor.

Five guineas for the best one year old ram, to Mr. Wm. Smith, of Stoke Doyle.

Five guineas for the best stallion, for hunters, to Mr. Myhill Addy, of West Deeping.

Seven guineas for the best two year old draught stallion, to Mr. John Hatfield of Sawtry.

By Order,

John Hook, Secretary.

Peterborough, June 11, 1804.

### *South Hants Agricultural Society.*

PREMIUMS offered for the Anniversary Meeting at Southwick, on Tuesday the 26th of June.

#### CLASS I.

Four guineas to the ploughman who shall, with four horses, plough a quarter of an acre of land, in the least time and best manner.

Three guineas to the next best ploughman in the same manner.

Two guineas to the third.

One guinea to the fourth.

Half-a-guinea to the boy acting as driver to the winning team.

Five shillings to each of the other boys.

Two guineas to the person who shall, with snip-shears, shear two sheep, in the best manner and least time.

One guinea to the next best shearer in the same way.

Two guineas to the person who shall, with common shears, shear two sheep in the best manner and least time.

One guinea to the next best shearer in the same way.

Candidates for the Ploughing Premiums to be at Southwick, on the above day, at nine o'clock in the morning, in order to make proper trials, which are to commence at ten o'clock precisely; and Candidates for shearing at one o'clock precisely.

#### CLASS II.

Five guineas to the person who shall shew the finest cart stallion, who shall have covered in Hampshire during the season.

N. B. A certificate of recommendation, signed by a Member of this Society, must be produced.

Two guineas to the person who shall produce the best cart colt or filly bred in Hampshire.

Three guineas to the person who shall produce the best boar.

Three guineas to the Owner of the best two years old bull; the bull to have been his property three months previous to the 21st of June instant, and he must engage to keep the bull for three months longer.

Two guineas to the person who shall produce the best Leicester ram.

Two guineas to the person who shall produce the best South Down ram.

The rams to have been the property of the respective Owners from the 1st of January last, and if not shorn when produced, the Committee are to be at liberty of having them shorn.

Two guineas to the person who shall produce the best sow.

Three guineas to the person who shall produce the best cow, three years old, and bred in Hampshire, and to have been the property of the Owner from the 1st of January last.

Two guineas to the person who shall produce the best heifer, two years old, and bred in Hampshire, and to have been the property of the Owner from the 1st of January last.

Cattle produced for these Premiums, must be at the Golden Lion Inn, Southwick, before one o'clock on the same day.

#### CLASS III.

Two guineas to the Labourer in agriculture, who has supported the greatest number of children, the eldest not exceeding the age of 18 years, without any, or with the least, relief from the parish.



One guinea to the Labourer who has, in like manner, supported the next greatest number of children.

Candidates for these Premiums must send to the Secretary before the 24th of June instant, a certificate of their case, signed by the Minister of the Parish, and also by a Member of this Society.

#### CLASS IV.

Two guineas to the servant in agriculture, who has served his master faithfully, and for the longest period.

One guinea to the servant in agriculture who has the next best character.

One guinea to the next.

Two guineas to the labourer in agriculture who has served his master faithfully, and for the longest period.

One guinea to the second.

One guinea to the third.

Two guineas to the Boy employed in husbandry, who has served his master faithfully, and for the longest period.

One guinea to the second.

One guinea to the third.

Two guineas to the Shepherd who has been the greatest number of years (not less than five) in the same service.

Three Guineas to the shepherd who has reared the greatest number of lambs, in proportion to his flock, consisting of not less than fifty.

One guinea to the shepherd who has reared the next greatest number of lambs.

Two guineas to the dairy maid who has served one master or mistress faithfully, and for the longest period, not less than five years.

One guinea to the second.

One guinea to the third.

Candidates for these premiums must send to the Secretary before the 24th of June instant, a written character from their master or mistress, which must be signed by the minister of the parish, and also by a member of this Society.

The Society reserve to themselves the power to withhold any of the premiums, if there appear not be sufficient merit in the claim, or to give such part only of any premium, as the candidate shall in their judgment deserve.

Fareham, June 9, 1804.

W. W. MAIDMAN, Secretary.

#### Newark Agricultural Meeting.

The Most Hon. the Marquis of Titchfield, President.

A Meeting of this Society will be holden at the Rutland Arms Inn, in Newark, on Monday the second day of July next, at eleven o'clock in the forenoon, when the following premiums will be determined, according to the proposals advertised in November last.

	£.	s.	d.
For the best short horned yearling Bull, not more than eighteen Months old when shewn	10	10	0
For the best long woolled Tup Hog, wool and carcase taken together	5	5	0
For the next best	3	3	0
For the best fine woolled Tup Hog	3	3	0
For the next best	2	2	0
For the four best Ewe Hogs	3	3	0
For the four next best	2	2	0
For the best boar	2	2	0
For the next best	1	1	0

Persons intending to become candidates, are to give seven days notice to the Secretary.

The sheep may be seen clipped at any time after the first of June, on condition of the fleeces being produced with the sheep at the meeting, and a certificate setting forth the weight of the fleece, as well as the day of clipping.

GEO. H. BARROW, Sec.

Southwell, 31 May, 1804.

*Staffordshire Agricultural Society.*

THE next meeting will be held at the George Inn Litchfield, on Tuesday the 31st of July next.

The following premiums are offered to the person who shall then produce the best shear hog ram, a Gold Medal.

For the second best, a Silver Medal.

For the best two shear ditto, a Gold Medal.

For the second best, a Silver Medal.

For the best two years old fat wether, a Gold Medal.

For the second best, a Silver Medal.

For the best fat wether shear hog, a Gold Medal.

For the second best, a Silver Medal.

For the two best Theaves, a Gold Medal.

For the two second best, a Silver Medal.

For the best grey faced two shear ram, a Gold Medal.

For the best grey faced ewe, a Gold Medal.

For the best grey faced two shear wether, a Gold Medal.

For the best boar pig, a Gold Medal.

For the best fat pig, a Gold Medal.

For the best three years old bull, a Gold Medal.

For the best four years old ditto, a Gold Medal.

For the best two years old heifer, a Gold Medal.

For the second best, a Silver Ditto.

The sheep and cattle to have been fed with grass, hay, or roots, not to have had corn, and to be shewn by the persons who bred and fed them.

Information in writing to be given by each person to the Secretary, on or before the third day of July next, of what sheep or cattle they intend to shew.

All the sheep for this shew, to be shorn on or before the 20th of June.

No person to shew the same stock a second time, having gained a premium at a former meeting.

To any labourer in husbandry, who shall have brought up the greatest number of children, (born in wedlock), without assistance from the parish

To the second

3 3 0  
2 2 0

To any servant in husbandry who shall have continued the greatest number of years on the same farm

To the second

3 3 0  
2 2 0

To any labourer in husbandry, who shall have continued the greatest number of years on the same farm

To the second

3 3 0  
2 2 0

Applications to be delivered to the Secretary, on or before the first day of July next.

The applications must describe the ground of claims, and be accompanied by a certificate signed by the resident minister of the parish, in which the claimant lives, or by the master and mistress under whom he has served, and two other creditable householders, having a positive knowledge of the facts certified.

Not less than six children, or fifteen years service, will be deemed a sufficient pretension.

The claimants are desired not to attend, as the successful candidate will have notice in the Birmingham and Stafford papers.

No person to receive any of the above premiums more than once in four years.

Mr. Anson proposes to give a silver cup of the value of fifteen guineas to the person who being a tenant, shall plough and prepare for sowing the greatest quantity of land upon his farm, not less than thirty acres with only two horses or oxen abreast, and without the assistance of a driver, between the last and the next meeting of this Society.

A certificate of the ploughing being done in husbandlike manner, to be signed by two respectable persons in the parish where the claimant resides, and delivered to the president for the next meeting.

The premium to be confined to the county of Stafford.

Any person wishing to become a member will send his name to Mr. Bond of Litchfield, the Secretary.

The Right Hon. Lord Talbot, President.  
Sir Rob. Lawley, Bart. Vice-President.

### *Woburn Sheep Shearing.*

THE Proceedings of this distinguished Agricultural Society, commenced on Monday, June the 18th, and was well attended, notwithstanding the absence of so many amateurs on their parliamentary duty.

Previously to the Company's entering on business, the intended Monument to the memory of the late Duke, was exhibited. It is a colossal figure in bronze, nine feet in height, resting the right hand on a plough, as Hope and other figures have frequently been made to do upon an anchor, with four emblematical figures at its feet, (the model for casting of which is in great forwardness) which is to be erected in Russell-square, on a pedestal of granite, twenty-five feet high in the whole; the effect of which was shewn by a very good perspective view of the square, with the intended statue in its centre. On the pedestal, the following inscription is intended: "To the memory of Francis Duke of Bedford, this statue was erected by public subscription, in gratitude for his Grace's unwearied endeavours to improve the theory and practice of Agriculture."

The show and sale of cattle and sheep on the respective days, were arranged as follows:

Monday, in the morning, shew of Leicester tups. In the evening, sale of Leicester ewes.

Tuesday, in the morning, shew of South-down tups, shew of Hereford and Devon cattle, prize wethers, prize theaves. In the evening, Leicester tups let, sale of Hereford and Devon cattle.

Wednesday, in the morning, prize wethers, dead; shew of South Down ewes, ploughing, trial of implements, sheep-shearers. In the evening, South Down tups let, sale of South Down ewes, sale of Hereford and Devon cattle continued.

Thursday, in the morning, second shew of Leicester tups, shew of Hereford and Devon cattle. In the evening, Leicester tups let, sale of Hereford and Devon cattle.

The exhibition of the new Leicestershire rams, began at eleven o'clock, P. M. at the Duke's mill, to which a party of the company repaired, in the course of the forenoon, the application of a steam engine to the purposes of agriculture, was much admired. A person in the company mentioned, that 24 well-fed ewes in Holderness had, this season, produced 70 fine lambs. It was agreed, that an examination of 8 shorn hogs, and of 7 sheep, which had been twice shorn, and one which had been twice shorn, and one which had been three times shorn, and that the rams of the present year were better than those of any former shew at Woburn. Mr. Tollet shewed some very long wool produced from Spanish sheep, formerly of his Majesty's flock, and on which the wool had been suffered to grow unshorn for two years. At three P. M. his Grace entertained at dinner in the great hall, the Duke of Manchester, the Earl of Upper Ossory, the Earl of Albemarle, Lord Somerville, Lord Sheffield, Lord Ludlow, Sir Joseph Banks, Mr. Arthur Young, and other gentlemen, to the number of 190; after the cloth was removed, his Grace gave the following toasts:

The King, Success to Agriculture, The Fleece, Good Grazing, The Union of Agriculture and Commerce, The Plough, Irrigation, The Memory of Mr. Bakewell, The Farming Society of Ireland, Earl of Egremont.

A little before six, the company returned to Park Farm. Four pens of new Leicester sheep were then sold by auction; five theaves for thirteen

guineas; five for twelve guineas and a half; five ewes for twelve guineas; five for nine guineas and a half.

Soon after eleven o'clock, on Tuesday morning, the shew of South Down tups commenced; different parts of the company being at the same time employed in examining an experiment in drilling turnips on his Grace's farm; others were engaged in examining the different implements in agriculture belonging to his Grace, and brought by others to be exhibited.

Mr. Smith, of Bath, exhibited a plan of a water meadow, constructed by him at Pridley, in the neighbourhood of Woburn; and also of the maps of the strata of England. Mr. Plunket shewed models of his serging capstan, applicable to the heaving of the anchor on board of ship, or to any other purpose where a great strain is to be exerted on a rope; he also shewed a model of a reaping and mowing machine. Mr. Salmon, his Grace's surveyor, shewed his drilling machine. Mr. Runciman, of Woburn, exhibited a pen of three theaves, as candidate for the prize offered last year by his Grace. Mr. Circuit, of Woburn, also shewed three theaves; Mr. John Moore, of Aspley, three; and Mr. John Purser, of Bedford, three; which were all very critically examined by the company: as also by Messrs. Ellman and Wing, the two judges appointed to decide on their respective merits. His Grace the Duke of Grafton exhibited two large oxen, a cross between the Derbyshire and Yorkshire breeds. Charles Western, Esq. shewed two boars and a sow of the Essex breed. Mr. Runciman shewed a five-shear South-Down ewe. Mr. Bellamy, of Bath, laid before the company certificates of the success of his medicines for the cure of the scouring of cattle and sheep. Mr. Parkinson delivered his proposals for two intended publications on the present state of agriculture in Ireland, and in America. About three o'clock more than two hundred persons, principally consisting of Gentlemen of landed property, and agriculturists of note, sat down to an excellent dinner at the Abbey. After dinner much interesting conversation followed, enlivened by the following toasts:

The King, Success to Agriculture, The Fleece, Good Grazing, Prosperity to all Improvements in Agriculture, The Plough, Irrigation, The Memory of Mr. Bakewell, The Farming Societies of Ireland, Mr. Forster, The Farming Societies throughout the Kingdom; Mr. Billingsley.

After dinner, the fat wethers in the stables adjoining the abbey, belonging to Mr. Edward Platt, Mr. Benton, Mr. Bithray, Mr. Earl, and a tup belonging to Lady Lloyd, of Paul Patriarch's breed, were examined by the breeders and amateurs present; after which the company adjourned to the Park Farm, when the Leicester tups, shewn on Monday, were most of them left at very handsome prices. Three Hereford cows were sold by auction at twenty pound, fifteen guineas, and fourteen guineas and a half; two Devon cows at fifteen and thirteen guineas and a half, and a yearling Durham Bull at eight guineas.

Among the company, which was much more numerous than on Monday, were noticed, Lord Somerville, Charles Gordon Grey, Henry Hugh Hoare, Mr. Crisp, Mr. Higgins, Mr. Eason, Mr. Ratcliffe, Rev Mr. Mead, Messrs. Lester, Gibbs, Gobbet, Walton, Bellamy, Gresham, Parry; Purser, Fossey, Baker, Tween, Circuit, Buttfield, Preston, Arnold, Cowley, Hampshire, Smith, &c.

On Wednesday morning, very early, a party, consisting of Sir Joseph Banks, President of the Royal Society, Lord Sheffield, President, and Mr. Arthur Young, Secretary of the Board of Agriculture, — Crisps, Esq. William Smith, John Farey, &c. rode to Priesley farm, a distance of four miles, and viewed the new-water meadows, and other improvements thereon: a more pleasing object could not be presented than the three meadows of two years, one year, and half a year's standing, where the sterile bog was found by the aid of irrigation covered in proportion to the time of its application with its best natural grass.

After breakfast the company assembled at the Slaughter-house, adjoining his Grace's stables, and the carcasses of the fat Wethers, which were examined alive on Tuesday evening, were minutely examined by the Graziers, Butchers, and Amateurs present, the judges appointed to decide on their merits having previously examined them. After this the South Down Ewes were exhibited one by one, in the show-house; where the company repaired to Crawley Heath, a distance of about a mile, where seven ploughmen, with their respective instruments, in the breaking up of clover lea, as competitors for the prize offered last year by his Grace, for the plough which should, with the least force, turn the cleanest and deepest furrow; the seven ploughs belonged to Lord Somerville, Samuel Whitbread, Esq. Dr. Maoquin, Joseph Cowley, James Potts, Mark Duckitt, and Mr. Lester, the remainder being in use on his Grace's farm, under the care of Mr. Wilson, the bailiff. Much interesting discussion and observation presented itself to the spectators, in witnessing this very laudable contest; the judges minutely attending to all the circumstances of pounds weight exerted by the horses in drawing each plough, (except Mr. Lester's, which failed at the onset) the depth, width, and cleanness of furrow.

The Rev. Mr. Brown exhibited a long horse-hoe, and Mr. Mark Duckitt a Scuffler, the operations of which were inspected by the judges and the company, who then repaired to the Park-farm, where Runciman's horse-hoe, Cartwright's three furrow plough, Salmon's chaff-cutter drill, and scuffler, were submitted to the inspection of the Mechanics and Agriculturists present. Mr. Blunt, an artist of eminence, attended, and made drawings of some of the mechanics and implements shewn. Mr. Garrard, of London, the famous Modeler, was also present, and took sketches of some of the most favourite animals. Soon after three o'clock, more than 300 persons sat down to dinner at the Abbey. The following toasts were given: The King. Success to Agriculture. The Fleece. Breeding in all its branches. The Plough. Small in size and great in value. Irrigation. Success to the Farming Society of Ireland, which produced a short speech from an Irish Gentleman present, on behalf of that most respectable Society.

Mr. Bridge, Mr. Overman, &c.

Printed proposals were circulated for the Premiums to be given by his Grace at the ensuing sheep-shearing, in June 1805, which are equally liberal, and directed to the same objects as heretofore, with the addition of a premium to the Ploughman who shall hold or conduct the successful plough in the trial of those implements: also, to the Shepherd who shall have reared the greatest number of lambs in 1805, in proportion to his flock, Five Guineas: four other premiums, of four, three, two, and one guinea, are offered, for the next greatest numbers in succession: but the principal novelty in the Premiums is the handsome offer on the part of his Grace, of fifty guineas, "to the Farmer in Bedfordshire, who shall, between the 1st of January, 1804, and the 1st of June, 1805, have converted the greatest quantity of land into water-meadow, not less than ten acres, on the best and most approved system."

After dinner, the company repaired to the Park Farm, and inspected the operation of ten sheep-shearers, who each sheared four sheep, as candidates for the prizes offered last year, for "the best sheep-shearer." Several South Down rups were then left, and South Down ewes, and Hereford and Devon cattle, were sold by auction, which closed this day's business. In the course of the forenoon, the Portuguese ambassador, Earls Lauderdale and Darnley, Lord William Russell, Mr. Coke, Mr. Aston, Mr. Northey, Mr. Lee Antonio, Mr. Byng, and several other persons of distinction, arrived from London; and among the company we noticed, Sir John Sebright, and Messrs. Barnet, Trevor, Higgins, Godfrey Thornton, Smith, Thomas Pickford, Chandler, Riley, B. Bevan, Baker, Rutley, Potts, &c. &c.

On Thursday Morning early the Duke of Manchester, Earl Lauderdale,

Lord Somerville, Mr. Coke, Sir Harry Featherstone, William Child, Lorraine Smith, Mr. Brown, Mr. Smith, Mr. Chandler, and others, went over to Priestley to view the water meadows, of which a plan was hung up in the show house at the Park Farm.

Mr. Smith, of Bath, exhibited his maps of the strata of England and Wales, towards the publication of which Sir Joseph Banks generously subscribed 100*l.* and paid down half the money; an example which, we trust, for the interest of the science, will be followed by a sufficient number of Land-owners and Gentlemen of Property, to enable Mr. Smith to arrange and publish his most valuable body of facts and observations, with a chance of gaining a just remuneration.

During this day the printed conditions of the premiums now offered by the Smithfield Cattle Society, were stuck up in the show-house.

Mr. Bevan, a land surveyor, of Leighton Buzard, shewed his new instrument for the measuring of trunks of trees, both felled and standing.

The printed proposals for Mr. Whittle's sale of cattle were circulated among the company: several wool-staplers and connoisseurs in wool examined the fleeces in the wool chamber, at the Park Farm. His Grace, however, does not sell his wool in the fleece, as was formerly done, but sends it to London to be first sorted, when the different sorts are sold to manufacturers.

The second shew of Leicester tups took place in the forenoon at the show-house, and of Hereford and Devon cattle, in the cow-house.

At three o'clock, near 150 persons sat down to dinner with his Grace at the abbey; and after The King, Success to Agriculture, The Fleece, The Union of Husbandry and Commerce, as toasts, his Grace rose and expressed his great satisfaction at the increasing goodness of the theaves and wethers produced on this occasion by Bedfordshire breeders, effected in a great degree, as his Grace with great feeling observed, by the exertions of his much-lamented brother, the late Duke. His Grace then noticed, with regret, that no implement of agriculture had been this year produced, which merited in the opinion of the judges, the premium of twenty guineas, which was offered last year; and went on to observe upon the experiments in ploughing, made on Wednesday forenoon, in which he remarked, that the person who was to hold or conduct Lord Somerville's patent plough, having been suddenly taken unwell, an unexperienced ploughman had been resorted to, whose work fell greatly short of what he had before observed this plough to be capable of doing in other trials. His Grace then proceeded to notice the new premiums which had this year been added to the usual list of premiums, particularly on the premium of fifty guineas to the farmer, in Bedfordshire, who should, between the 1st of January, 1804, and the 1st of January 1805, have converted the greatest quantity of land into water-meadow, not less than ten acres, on the best and most approved system. His Grace then proceeded to read the determination of the judges on the first class of premiums, by which a cup of ten guineas value was adjudged to Mr. Bithrey; and the second prize of five guineas to Mr. Earl, for fat wethers. His Grace observed, that the fleeces of Mr. Moore's sheep were highly creditable to him in quantity and quality of wool. The second class of premiums, of a cup value ten guineas, and five guineas, were adjudged to Mr. Moore, of Aspley, and Mr. John Circuit, of Woburn. In the third class of premiums, his Grace observed, that there was no competition for the prize of the best boar; for though Mr. Weston had sent two boars, no one had attended to give the required information to the judges to enable them to decide.

Thomas Linnel was adjudged five guineas, John Mason four guineas, Joseph Giles three guineas, G. Wadsworth two guineas, and Job Arnold, of Crowley, one guinea, as the prizes for the neatest and cleanest sheep shearing.

And thus ended the most interesting meeting which has for a long time been witnessed.

LONDON PRICES OF GRAIN for *June, 1804.**MARK-LANE, Monday, June 4.*

SINCE last Monday, the supply of all Grain has been rather scanty, and most articles are dearer. Wheat is 1s. per quarter higher, and Barley finds buyers at a small advance. Malt keeps its price. In Horse Beans there is not much alteration, but Grey Pease are up 1s. per quarter; the other sorts of Pease remain nearly as last. Oats are considerably dearer, as may be seen by the figures annexed.

*Price of Grain, on board Ship, as under.*

Wheat	28s to 54s	Malt	6s to 62s od	Grey Peas	31s to 34s od
Fine	54s to 56s od	Oats	22s to 27s	Beans, new	33s to 36s
Rye	23s to 27s	Polands ditto	28s to 30s od	Old ditto	—s 39s
Barley	21s to 26s 6d	White Peas	34s to 37s od	Ticks	26s to 34s

*Monday, June 11.*

Our market, as on Monday last, has been but sparingly supplied with Grain to-day; in consequence, Wheat continues to look upwards, and the trade brisk at 1s. per quarter advance. Fair samples of Horse Beans are 2s. and both sorts of Pease, 1s. per quarter dearer. We have some arrivals of Foreign Oats, which article, notwithstanding, fetches better prices than last week. In Barley, Malt, and other corn, we have nothing material to note.

Wheat	30s to 54s	Malt	55s to 61s od	Grey Peas	—s to 35s od
Fine	55s to 57s od	Oats	24s to 29s	Beans, new	35s to 40s od
Rye	25s to 28s od	Polands ditto	30s to 31s od	Old ditto	42s od
Barley	23s to 26s od	White Peas	34s to 40s od	Ticks,	28s to 35s od

*Monday, June 18.*

Our supply of Wheat as on Monday last, being but moderate, the sales were brisk, and prices something better, say 1s. per quarter. In Rye and Barley we have no alteration, except that the sales of both, with Malt, are dull, and scarcely maintain our last reported currency. Horse and Tick Beans, with White Pease of the various sorts, are rather cheaper, but Grey Pease (a very short supply) are dearer. We have plenty of Oats, which, from the great demand, keep up, though not quite equal to last Monday's prices.

Wheat	30s to 54s	Malt	52s to 60s od	Grey Peas	33s to 36s od
Fine	55s to 58s od	Oats	22s to 27s	Beans, new	30s to 36s od
Rye	24s to 27s od	Polands ditto	28s to 20s od	Old ditto	39s od
Barley	20s to 25s 6d	White Peas	35s to 39s od	Ticks	30s to 35s od

*Monday, June 25.*

We had but a moderate portion of Wheat in for this day's market; and though some fluctuation was observed in the few sales of Wednesday and Friday, prices may be considered as coming up nearly to last Monday's standard. Barley is almost without buyers, and which, with Malt, are rather lower. Horse and Tick Beans are dearer. White Pease are about last week's average; but Grey Pease continue scarce, and dearer. Having plenty of Oats, they (with the exception of very fine samples) are cheaper, and the sales dull. In other articles, no material alteration.

Wheat	30s to 55s	Malt	53s to 59s od	Grey Peas	34s to 37s od
Fine	56s to 58s od	Oats	20s to 25s	Beans, new	36s to 39s od
Rye	24s to 27s	Polands	26s to 27s 6d	Old ditto	41s od
Barley	20s to 25s od	White Peas	36s to 38s od	Ticks	26s to 35s od

**AVERAGE PRICES OF CORN**, by the quarter of eight Winchester bushels; and of **OATMEAL**, per boll, of 140 pounds Avoirdupoise:

*From the Returns received in the Week, ended JUNE 14, 1804.*

**INLAND COUNTIES.**

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	52	9	27	0	25	9	26	4	34	11	32	8		
Surrey	56	8	28	0	26	10	27	8	36	0	36	0		
Hertford	48	2	35	6	24	0	20	6	35	6	31	5		
Bedford	47	5			23	0	23	1	31	2	36	0		
Huntingdon	43	11			21	1	20	8	28	7	33	7		
Northampton	50	4	31	6	21	4	20	4	30	6				
Rutland	48	6			21	6	21	0	32	0			57	3
Leicester	52	0			25	1	20	7	34	10	32	10	35	4
Nottingham	55	8	33	6	26	0	22	8	36	0				
Derby	59	1			25	10	21	11	38	8			29	5
Stafford	52	4			29	7	24	2	42	3			34	2
Salop	51	2	37	0	30	6	28	10					65	9
Hereford	46	0	30	4	31	8	29	1	42	8	42	2	59	3
Worcester	47	6			28	6	28	1	36	8	37	8		
Warwick	52	6			30	3	26	9	38	5			42	2
Wilts	51	0			27	2	26	4	42	4	39	0		
Berks	53	8			26	2	27	2	37	2	36	6		
Oxford	48	5			24	3	25	0	34	9				
Bucks	50	7			24	4	23	10	32	7	36	3		
Brecon	52	3	32	0	27	7	22	4			32	0	38	6
Montgomery	49	7			25	7	23	9					46	7
Radnor	46	5			25	2	23	1					67	10

**Maritime Counties.**

Essex	49	10	27	0	23	10	27	0	32	9	34	6		
Kent	50	9			24	0	26	0	32	0	34	0		
Suffex	56	9			26	0	27	3						
Suffolk	48	0	26	0	22	6	23	7	28	8			50	16
Cambridge	43	7			21	8	17	2	29	8				
Norfolk	45	4	27	0	22	1	21	0	29	0	36	0		
Lincoln	45	6	30	0	21	10	21	0	31	7				
York	49	8	35	11	23	5	20	3	33	6	58	8	37	5
Durham	54	10				21	10							
Northumberland	50	2	36	0	23	6	22	2	31	0	36	0	16	
Cumberland	58	10	41	4	27	1	22	11					19	1
Westmorland	59	10	39	4	27	1	22	11					20	2
Lancaster	58	9				23	0	39	6				18	10
Chester	50	6				27	1	41	0					
Flint														
Denbigh	55	3			28	2	22	5					38	2
Anglesea							18	0						
Carnarvon	60	8			26	6	18	0					40	6
Merioneth	55	4	46	0	32	0	22	4					34	11
Cardigan	55	3			24	0	17	0						
Pembroke	51	10			29	10	17	0						
Carmarthen	58	3			33	8	17	0						
Glamorgan	51	4			33	4	25	2						
Gloucester	46	10			25	6	24	6	35	11				
Somerset	52	2			29	1	25	4	42	0	48	0		
Monmouth	49	9												
Devon	56	5			26	2	25	2						
Cornwall	56	10			33	5	21	10						
Dorset	51	9			26	6	24	10						
Hants	50	4			27	3	23	8	36	2				



**Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for June 1804.**

Price of Hops.		First Week		2d Week		3d Week		4th Week	
Bags.		s.	s.	s.	s.	s.	s.	s.	s.
Kent	—	100 to	122	100 to	118	100 to	118	99 to	105
Suffex	—	100 to	116	100 to	112	100 to	112	92 to	100
Essex	—	100 to	116	100 to	118	100 to	118	92 to	100
Pockets.									
Kent	—	110 to	130	110 to	126	110 to	126	96 to	108
Suffex	—	110 to	120	108 to	116	108 to	116	95 to	100
Farnham	—	160 to	200	100 to	160	120 to	160	120 to	160
Seeds.									
Red Clover per cwt.	—	40 to	84	30 to	80	30 to	80	30 to	80
White Clover, ditto	—	50 to	112	50 to	110	50 to	110	50 to	110
Trefoil, ditto	—	24 to	44	20 to	42	20 to	42	20 to	42
Caraway ditto	—	— to	75	— to	75	— to	75	— to	75
Coriander ditto	—	16 to	20	16 to	20	16 to	20	16 to	20
Turnip, (per bushel)	—	22 to	24	22 to	24	22 to	24	22 to	24
White Mustard Seed	—	8 to	10	8 to	10	8 to	10	8 to	10
Brown ditto	—	12 to	16	12 to	16	12 to	16	12 to	16
Canary Seed	—	7 to	8	7 to	8	7 to	8	7 to	8
Rape Seed, (per last)	—	37 to	39	37 to	39	37 to	39	36 to	39
Meat at Smithfield,									
To sink the offal, p. ft. 8lb.		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Beef	—	4 4 to	5 6	5 0 to	6 0	4 8 to	5 8	4 8 to	5 8
Mutton	—	4 4 to	5 8	4 4 to	5 4	4 4 to	5 0	4 0 to	4 8
Veal	—	5 0 to	6 0	5 0 to	6 4	4 8 to	5 8	4 6 to	5 6
Pork	—	3 4 to	4 4	3 8 to	4 8	3 8 to	4 4	3 0 to	4 0
Lamb	—	5 0 to	6 6	5 0 to	7 4	6 0 to	7 0	5 0 to	6 4
Head of Cattle—Beasts about		2,000		1,300		1,700		1,700	
— Sheep		13,500		14,000		14,000		12,500	
Price of Leather.		d.	d.	d.	d.	d.	d.	d.	d.
Butts, 50lb. to 56lb. each		21 to	22	21 to	22	21 to	22	21 to	22
Ditto, 60lb. to 65lb. each		23 to	24	23 to	24	23 to	24	23 to	24
Merchants Backs	—	21 to	21½	21 to	21½	21 to	21½	21 to	22
Dressing Hides	—	20½ to	22	21 to	22	21 to	22	21 to	22½
Fine Coach Hides	—	22 to	24	22½ to	23½	22½ to	23½	22 to	23½
Crop Hides for cutting	—	21 to	22	21 to	22½	21 to	23	22 to	23
Flat Ordinary	—	20½ to	21	20½ to	21	20½ to	21½	21 to	22
Calf Skins, 30 to 40lb. p. doz.		32 to	36	30 to	36	30 to	36	32 to	36
Ditto, 50lb. to 70lb. do.		32 to	35	30 to	35	30 to	35	30 to	35
Ditto, 70lb. to 80lb. do.		29 to	31	29 to	31	29 to	31	29 to	31
Sm. Seals (Greenland)		51 to	54	48 to	52	48 to	52	51 to	54
Large do.		51 to	71 10s	51 to	71 10s	51 to	71 10s	51 to	71 10s
Tanned Horse Hides		25s to	36s	25s to	36s	25s to	36s	25s to	36s
Goat Skins per doz.				30s to	66s	30s to	66s	30s to	66s
Price of Tallow.		s.	d.	s.	d.	s.	d.	s.	d.
St. James's Market	—	4	3	4	2½	4	2	4	2½
Clare Market	—	4	3	4	2½	4	2½	4	2
Whitechapel Market	—	4	2	4	2½	4	1½	4	1
Per stone of 8lb. Average		4	2½	4	2½	4	2	4	2
Town Tallow	—	71	6	71	6	72	0	71	0
Russia ditto (Candles)	—	71	0	70	0	70	0	71	0
Russia ditto (Soap)	—	69	0	68	0	68	6	69	2
Melting Stuff	—	59	0	58	0	58	0	58	0
Ditto rough	—	39	0	39	0	38	0	38	0
Graves	—	14	0	14	0	14	0	14	0
Good Dregs	—	11	0	11	0	11	0	11	0
Yellow Soap	—	80	0	80	0	80	0	80	0
Mottled ditto	—	88	0	88	0	88	0	88	0
Curd ditto	—	92	0	92	0	92	0	92	0
Candles, per dozen,	—	11	6	11	6	11	0	11	0
Moulds	—	12	6	12	6	12	0	12	0

Prices of Raw Hides, Hay and Straw, &c. for June, 1804.

Raw Hides.		First Week		2d Week		3d Week.		4th Week.	
		s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
Best Heifers & Steers, pr £.	—	0 0	to 0 0	0 0	to 0 0	3 6	to 3 8	3 6	to 3 8
Middling	—	0 0	to 0 0	0 0	to 0 0	3 2	to 3 4	3 2	to 3 4
Ordinary	—	0 0	to 0 0	0 0	to 0 0	2 10	to 3 0	2 10	to 3 0
Market Calf	—	—	0	—	—	10	6	10	6
Eng. Horse	—	—	1 to —	—	1 to —	14s	to 17s	14s	to 17s
Sheep Skins	—	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0	0 0	to 0 0
Lamb Skins	—	0 0	to 0 0	0 0	to 0 0	2 6	to 3 6	2 6	to 3 6
Prices of Hay and Straw.		l. s. d.		l. s. d.		l. s. d.		l. s. d.	
St. James's—Hay	—	4	7 6	4	6 0	4	0 0	4	4 0
Straw	—	1	11 6	1	11 0	1	13 9	1	14 6
Whitech.—Hay	—	4	10 0	4	8 0	4	5 0	4	8 0
Clover	—	5	8 0	5	8 0	5	7 0	5	6 0
Straw	—	1	9 0	1	10 0	1	4 0	1	13 0
Newbury.		38s to 58s		38s to 58s		35s to 61s		36s to 61s	
Wheat	—	23s	od to 27s	23s	od to 27s	23s	od to 27s	24s	od to 27s
Barley	—	24s	6d to 27s	24s	6d to 27s	25s	to 27s	24s	to 28s
Oats	—	—	to —	—	to —	—	to —	—	to —
Beans	—	—	to —	—	to —	—	to —	—	to —
New ditto	—	—	to —	—	to —	—	to —	—	to —
Peas	—	—	to —	—	to —	—	to —	—	to —
Salisbury.		48s to 52s		48s to 54s		48s to 54s		48s to 52s	
Wheat	—	—	to —	—	to —	—	to —	—	to —
New ditto	—	24s	to 28s	24s	to 28s	24s	to 28s	26s	to 28s
Barley	—	—	to —	—	to —	—	to —	—	to —
Beans	—	—	to —	—	to —	—	to —	—	to —
Oats	—	24s	to 28s	26s	to 28s	26s	to 28s	26s	to 29s
Peas	—	—	to —	—	to —	—	to —	—	to —

## A TABLE of the Prices of STOCKS in June, 1804.

Bank Stock.	3perCt. Red.	3perCt. Confols.	4perCt. Confols.	5perCt. Navy.	5perCt. Loyalty	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irisla 5 pr. Cent	Omnium	India Stock.	English Tickets.	Consols for Account.
151	55½	56½	72½	91½	95½	16 3-8	3 1-16	54½			4½ 4 Pm	17½	18 5 0	56½
151	55½	56½	72½	91½	95½	16 1-2	3 1-16	54½			4 3½		18 5 0	56½
151	55	56½	72	91½	95½	16 1-2		54½			4½ 4½		18 5 0	56½
151	55½	56½	72	92	95½	16 1-2		54½			5 4½		18 10 0	56½
151	55½	56	72	92½	95½	16 1-2		54½			4½ 4½		18 10 0	56½
151	55½	55	72	92½	95½	16 5-16		54½	9 5-16		4½ 3½	17½	18 10 0	56½
152	55½	56	72½	92½	95½	16 7-16		54½			4½ 4		18 15 0	56½
152½	55½	55½	72	92½	95½	16 1-2		54½			4 3½		18 15 0	56½
152½	55½	55½	72½	92½	95½	16 1-2		54½			3½ 4		19 15 0	56½
152	55	55½	71½	92½	95½	16 5-16		54½			4 3½		19 15 0	56½
152	55	55½	72	92½	95½	16 1-2		54½			5½ 3½		19 15 0	56½
152	55	55½	72	92½	95½	16 1-2		54½			3½ 4		19 15 0	56½
152	55	55½	72	92½	95½	16 1-2		54½			4½ 3½		19 15 0	56½
153	55	56	72	92½	95½	16 7-16	3 1-6	54½			4½ 3½	17½	25 0 0	57
153	55	56	72½	92½	95½	16 7-16		54½	9 7-16		4½ 3½	17½		56½
153	55½	56	72½	92½	95½	16 5-16		54½			4½ 3½			56½
153	55½	55½	72½	92½	95½	16 1-2	3 1-16	54½			4			56½
153	55½	55½	72½	92½	95½	16 1-2		54½			4			56½

T. BISH, Stock-Broker, Old State-Lottery Office, No. 4, Cornhill, London.

# **PRICES OF COALS AT THE COAL EXCHANGE, LONDON,** **For JUNE, 18c4.**

Names of Coals.	Mon.	Wed.	Frid.	Mon.	Wed.	Frid.	Mon.	Wed.	Frid.	Mon.	Wed.	Frid.
	4th s. d.	6th s. d.	8th s. d.	11th s. d.	13th s. d.	15th s. d.	18th s. d.	20th s. d.	22d s. d.	25th s. d.	27th s. d.	29th s. d.
Adair's Main		43 6										
Baker's Main												
Bedford Main												
Benton	44 9		44	44			44		43 6		42	
Biddick Main												
Bigg's Main	46	45 9		47		46 6			47		46 6	46 6
Bladon Main												
Blyth									42			
Boundry												
Bourne Moor	42 6				41 3					39 6	39 6	
Brandling												
Bowes Main												
Byker												
Bedford												
Chous												
Cowpen	44 6	44 6			41 3							
Eden Main		40										
Eighton Main												
Flatworth												
Greenwich Moor												
Harraton												
Hartley		43 9		43					42 3	42 6		
Heaton Main						47				46	46	
Hebburn Main		46	46	47	46 6					46	46 6	
Holywell	41 9		41 6	42					40	40		
Kenton Main		45 6	46	46 9						45 6		
Montague Main		40							40			
Murton												
Murton Moor												
Newbottle												
New Tansfield												
Old Ducks												
Primrose												
Pitt's Tansfield M.	45 3		44 6	45		44 9	44 6	44 6		45		
Percy			40 6									
Rectory												
Ruffel's Main												
Simpsons Pontop			44	44			44 6		43 6		43 6	
Sheriff Hill												
South Moor		36 6								38		
Stanley Main												
St. David												
Team												
Temple												
Percey												
Tyne Main												
Eighton			43									
Walbottle Moor												
Walker	45 9	45 6	45 9		45 9	46			46			
Wall's End	43 6		48 3		48 6	48 6		48 6	48 3	47 6	47 6	
Willington	45 9	45 6	47	47	47							
Windsors Pontop				44							43 6	
Wylam Moor							42			40		
Wentworth												
Whitefield												
Main Wooler												
Warwick Main												
Warwick												

## TO OUR CORRESPONDENTS.

**WE** are very apprehensive that the few papers we have lately introduced on the subject of Tithes, may occasion a long and elaborate correspondence on an ecclesiastical and political subject, not precisely suited to a work "devoted to Farmers and Rural Affairs." We have no objection to insert a few short and occasional strictures; but we cannot feel ourselves disposed to make it a regular article in our succeeding numbers.

**CATO REDIVIVUS** should have taken the hint we gave him at the conclusion of our last publication; the additional paper we have received from him, will be punctually delivered to his order.

**A. G.—R. L.—C. X.** and **CHOROGRAPHUS**, have been received; the last will be inserted the ensuing month; the others are under consideration.

If **VETERINARIUS** will refer to the Preface compressed in the present number, he will see the confidence we have placed in his assurances, and we have no doubt the intimation we have given of his assistance will be acceptable to a very large proportion of our Readers.

# ALPHABETICAL INDEX

TO THE

## TENTH VOLUME

OF THE

## AGRICULTURAL MAGAZINE.

A.	Page	B.	Page
<b>ABSTRUSE</b> writing, inconvenience of in rural affairs	349	<b>Bankrupts, &amp;c.</b> monthly list of, for	
<b>Agricola Meridionalis</b> , reply to his essay on animal labour, by <b>Agricola Northumbriensis</b>	9	January,	74
<b>Agricola Norfolkensis</b> , and <b>Agricola Northumbriensis</b> , controversy between	337, 430	February,	133
<b>Agricola Northumbriensis</b> , Letter of, on paring and burning land, 38—Drill husbandry, hoeing, price of provisions, &c. in answer to P. J. 82—On spring wheat, sheep on turnip land, clover spoiled by the frost, &c. 178—On tythes, fallow, drilling, &c. 193—On the fertilizing nature of lime and dung	338	March,	230
<b>Agricultural Intelligence</b> , for		April,	305
January,	63	May,	389
February,	134	<b>Barberry-bush</b> , in a corn-field, supposed to cause the mildew in wheat	114
March,	217	<b>Barm</b> , <i>see</i> Yeast.	
April,	294	<b>Barn</b> , model of, (with an engraving)	161
May,	371	<b>Barometer</b> , on the use of, in agriculture	315
June,	458	<b>Bartley</b> , Mr. letter from, on the improvement of English wool from the Spanish cross	39
<b>Agricultural experiments</b> , list of	298	<b>Bath and West of England Agricultural Society</b> , list of premiums offered by, in December, 1803	134
<b>Agricultural inquiries</b> , the proper method of conducting them	18	<b>Bee hives</b> , refuse of, method of making vinegar from the	247
<b>Agricultural philosophers</b> , strictures on	189	<b>Beet sugar</b> , the German chemists acquainted with a method of crystallizing it	315 (note)
<b>Agricultural report</b> from Northumberland	294	<b>Bengal</b> , present state of husbandry in	254, 345
<b>Agricultural Societies</b> , proceedings at their meetings, <i>see</i> their several titles.		<b>Bleaching fields</b> , fences for securing	200
<b>Agricultural subjects</b> , essay on	173	<b>Botany Bay</b> , sheep at, producing wool of the Spanish quality	243
<b>Agriculture</b> , comparative state of, in the counties of Perth and Northampton	321	<b>Bucknel</b> , Thos. Skip Dyot, Esq. M. P. for St. Alban's, notice of his death	312
<b>Agriculture</b> , as connected with chemistry, essay on	248	<b>Bullock</b> , weight of a remarkably large one	69
<b>Agriculture of Kent</b> , on the Alnwick estate, divided into small farms, notice of	281		
<b>Animal labour</b> , on	9	<b>C.</b>	
<b>Arable land</b> , extent of, in England and Wales, table of the	394	<b>Canal Concerns</b> , review of the present state of	404
<b>Atmospheric phenomena</b> connected with agriculture	397	<b>Cast Iron</b> , method of tempering for agricultural uses	35
		<b>Cattle</b> , Lord Somerville's show of, account of	217
		<b>Charring hop-poles</b> , suggested as a mean for preserving them	125
		<b>Chemists</b> , their incompetency to the duties and labours of the field	36
		<b>Chemistry</b> , how far useful to the purposes of agriculture	24

	Page		Page
Clover (spoiled by frost, on	169	Elements of wool, on the	25
Coals, price of, monthly list of, for		Embankments, on	106
January,	77	"Essays on Miscellaneous Subjects,"	
February,	268	by Sir John Sinclair, (reviewed)	56
March,	233	Essex Agricultural Society, resolutions	
April,	310	passed at their meeting in January,	
May,	388	63; in February,	222
June,	475	Essex, petition to parliament from the	
Commercial property, as subject to		land-owners, &c. in the county of,	
perforal tythes, on	191, 245	relative to the malt-duties	227
Commons, in Norfolk, state of	162	Exhibition of Cattle at Smithfield,	
Commons, improvement of, instanced		weight of the prize pig, at	5
in Hounslow Heath, Finchley		Experiments, list of, in agriculture	298
Common, and Enfield Chase	204		
Cooke's drill, observations on some			
improvements in	242	F.	
Corn, average prices of throughout		"Farmer's Calendar," by Arthur	
England, monthly statement of,		Young, Esq. (reviewed)	212
for January,	78	Farms, size of, for a single occupant,	360,
February,	157		412
March,	234	Farms, small, on the Duke of North-	
April,	309	umberland's estate	282
May,	387	Ferriery, Feron's New System of,	
June,	471	(reviewed)	53
—, price of, as affected by the ex-		Ferriery, observations on	20
isting laws	20	Fattening pigs, on	5
—, low price of, petition to parli-		Fecundity, remarkable instance of	372
ament from Lincoln, in consequence		Fence, capable of securing bleaching	
of the	226	fields, orchards, &c.	200
—, observations on the best method		Floating lands, remarks on certain	
of mowing	126	objections against	237, &c.
Cornwall, on the agriculture of	258	Food of plants, on the	116
Correspondents, answer to two, on		Fowls, art of hatching them by means	
intervals in drilling, turnip culture,		of artificial heat	33, 155, 250
&c.	41	Fruit, method of obtaining from	
Cows, number of, in the vicinity of		trees disposed to run to wood	207, 318
the metropolis; mode of their be-			
ing fed; and their weekly produce		G.	
of milk	264	Garlic, serviceable to drive away	
Critical Catalogue for		moles	384
January,	58	"General View of the Agriculture of	
February,	129	Hertfordshire," by the Secretary of	
March,	211	the Board of Agriculture, (re-	
April,	286	viewed)	453
May,	362	"General View of the Agriculture	
June,	453	of Shropshire," by J. Plymley,	
Crops, rotation of, suited to many		M. A. (reviewed)	362
varieties of soil, 47—Comparative		Gothic ruin, notice of a	104
view of, in the counties of North-		Grain, prices of, in London, for	
ampton and Perth	321	January,	73
Crops, a course of	118	February,	155
		March	229
D.		April	308
Derby, West, Agricultural Society,		May,	386
premiums offered by, in April, 303,	381	June,	470
Diseases in the bones of the horse, on the	28		
Disorders of sheep, on the	103	H.	
Dogs, shepherds', on	165	Hampshire, South, Agricultural So-	
Downs, West and South, observations		ciety, premiums offered by	463
on the	124	Harrison, Dr. his "Inquiry into the	
Drill husbandry, &c. on	82	Rot in Sheep, and other Ani-	
Dublin Spring Show of cattle	377	mals," (reviewed)	286
Durham Agricultural Society, pro-		Hatching poultry, plan for, in imitation	
ceedings of, at their meeting in		of the Egyptians	33, 155, 250
December, 1833	70		

	Page		Page
Hereford Agricultural Society, proceedings of the, in March,	224	Land, quantity best suited to cultivation, by a single occupant	360, 412
in June,	460	Lawrence, Mr. his "Inquiry into the Structure and Animal Economy of the Horse," &c. (reviewed)	129
Highland Agricultural Society of Scotland, proceedings at their meeting in January	66	Levels, for watering ground, description of an implement for taking, (with a cut)	323
Hop-poles, charring them, suggested as a mean for preserving them	125	Lime, as a manure, on the preparation and utility of	129
Horses, diseases of, on the, (with recipes)	27, 28, 107, 169	Lime and Dung, on the Fertilizing Nature of	313
"Horse, Inquiry into the Structure and Economy of," by Mr. Lawrence, (reviewed)	129	Lincoln, meeting at, in February, for taking into consideration the low price of corn	226
Howden Agricultural Society, premiums adjudged and offered by	302, 383	M.	
Hunter, Dr. on a passage from the pen of, introduced into a quarterly Scottish magazine	47	Machine for the purposes of irrigation, description of, (with a plate)	237
Husbandry in Bengal, present state of,	254, 345	Madder, undried, on the uses of	47
I.		Malt Duties, petition to parliament relative to, from the land-owners, &c. of the county of Essex	227
Implements in husbandry, cheap ones used in Scotland	102	Mangold Wurzel, or Prussian sugar beet, on the	314
"Inquiry into the Rot in Sheep and other Animals," by Dr. Harrison, (reviewed)	236	Manure, method of producing from weeds and vegetable matter	396
Inquiries, agricultural, the proper method of conducting them	18	on dung, compost, and lime, used as	17
Intervals in drilling, turnip culture, &c. on	41	Mark-ets, London, monthly account of, for January	75
Irish Farming Society, premiums given by, in April	300, 374, 377	February	156, 160
Irrigation, machine for the purposes of, with remarks on certain objections to the expedient of floating lands (with a plate)	237	March	231
Irrigation, method of, whereby elevated lands may be flooded, (with a plate)	313	April	306
Iston, E. L. Esq. his machine for raising water, description of, (with a plate)	393	May	384
J.		June	473
Jerusalem wheat, notice of an attempt to cultivate it in Ireland	371	Measuring timber, easy method of, practised in Suffex	122
K.		Meteorological observations at York, table of	398
Kent, agriculture of	21	Middlesex, calculation of waste land in the county of, and neighbourhood	324
Kent Society for the Encouragement of Agriculture, &c. report of their proceedings in March; and premiums offered by, 296; in June	459	Mildew in wheat, attributed to a singular cause	114
Kimbolton Agricultural Society, premiums offered, and awarded by	461	Milk, quantity produced in the vicinity of the metropolis, 264—Impositions practised by the retail sellers	268
Knowledge; means for diffusing among farmers	428	Millbank, Westminster, remarks on the soil of the gardens in that neighbourhood, called The Neat Houses	327
Kohlrahe, on the	71, 126	Moles; may be got rid of by means of a few heads of garlic	384
L.		Mowing corn, observations on	126
Labour, on the proper selection of animals for	278	Muscles of the horse, on the	107
		N.	
		National Transactions, for	
		January,	61
		February,	132
		March	215
		April,	293
		May,	369



	Page		Page
Navan Farming Society, account of their proceedings at the anniversary meeting in January	68	Prize ox, Mr. Westcar's, description of (with a plate)	32
Newark Agricultural Meeting, premiums offered at	464	Prussian sugar-beet, on the	314
Norfolk, on the agriculture of	92, 425		
—, on the cattle of	325	R.	
Norfolk Agricultural Society, proceedings of the, in February	222	Radishes sowed with turnips preserve the latter from the ravages of the fly	384
March	302, 376	Rain, fall of, in part of the county of Lancaster, in the last 12 months	113
Northampton and Perth, counties of, comparative state of agriculture in	321	Reply to Agricola Northumbriensis, on the nature and design of the communications of Agricola Northolciensis	337
Northumberland, state of corn and cattle in a district of	369	Rice, experiments for its culture in the vicinity of London	275
— husbandry of, compared with that of Norfolk	425	Ross fair, prices at	228
O.		Rotation of crops suited to many varieties of soil	47
Orchards, fences for securing	200	Ruta бага, or Swedish turnip, on the	313
P.			
Paring and burning Land, on	38	S.	
Patent, specification of a, for eradicating the smut from wheat, and for cleansing it, when infected	168	Scientific terms, absurdity of, in works devoted to practical farming	335
Patents, lately enrolled, enumeration of	128, 286	Sheep, weight of	46
Paterish sheep, on	45	— on turnip land	169
Perth and Northampton, counties of, comparative state of agriculture in	321	— disorders of, on the	103
Peterborough Agricultural Society, premiums given by	237, 462	Sheep at Botany Bay, producing wool of the Spanish quality	243
Pharmacy, useful memoranda in	400	Sheep, paterish, on	43
Phenomena, atmospheric, connected with agriculture	397	Shepherds' dogs, on	165
Philosophers, agricultural, on	189	Shrewsbury fair, prices at	228
P. J. in answer to Agricola Northolciensis	162	Sinclair, Sir John, Essays by, on miscellaneous subjects (reviewed)	56
Pig, the prize, weight of, (with an engraving)	5, 166	Small farms on Alnwick estate	281
Pig-fattening, on	5	Smut, a species of wheat not liable to	114
Plagiarism, charge of, by Dr. Hunter, against the editor of this work, answered	47	— in wheat, specification of a patent for eradicating	168
Plants, food of, on the	116	Society for the Encouragement of Arts, Manufactures, and Commerce, premiums offered and awarded by	433
Plymley, Joseph, M.A. his "General View of the Agriculture of Shropshire" (reviewed)	362	Soils, capable of sustaining vegetable produce, description of different kinds of	176
Poll-evil in horses, on the (with recipes)	271	Somerville, Lord, account of his annual show of cattle	217
Potatoes, the culture of from seed preferable to the method by offsets	240, 418	South Wales, agriculture of, on the	105
Poultry, plan for hatching, in imitation of the Egyptians	33, 155, 250	Spring sowing, its success	99
Premiums offered by a gentleman of Wexford, for the encouraging of sowing corn in drill, and for growing winter and spring food	69	Spring wheat, on	187
Premiums offered by Agricultural Societies, see the several names of the societies.		Staffordshire Agricultural Society, premiums offered by	465
Prize hog, account of (with an engraving)	166	Stocks, prices of, monthly list of, for	
		January,	79
		February,	159
		March,	235
		April,	311
		May,	391
		June,	474
		Suffex Agricultural Meeting, premiums offered by	458
		Swedish turnip	313

	Page		Page
<b>T.</b>		<b>Westmoreland</b> , observations on the agriculture of	183
Thrush in horses, recipe for the cure of	274	Wexford, premiums offered by a gentleman of, for the encouragement of sowing corn in drills, and for growing winter and spring food	69
Timber, measuring, easy method of, practised in Suffex	122	Wheat, a species of, not liable to the smut	112
Timber-trees, method of improving them	207, 318	—, quantity annually produced throughout the counties of England and Wales, table of the	394
Turnips, on the culture of	242, 351	“Wheat & Sheaf,” a signature used in this Magazine, by Tho. Skip Dyet Bucknell, esq. M. P. for St. Alban’s, deceased	312
— preserved from the ravages of the fly by sowing radishes with them	384	Whittle, Mr.’ account of his prize hog (with an engraving)	5, 166
Turnip land, shee-p on	169	Woburn Sheep-sheering, account of	466
Tythes, as connected with commercial and trading profits, on	191, 245, 333, 401	Wood, useful discovery to render it fit for building, &c. more speedily than by the method commonly practised	100
<b>V.</b>		Woodlands, the, in the district extending from Chatham hill to Charing, on	201
Veterinarius Alter, answer to the paper by, on Farriery	20	Wool, elements of, on the	25
Veterinary subjects, essay on	173	—, Spanish and English, calculations on.	86
Veterinary art, on the, Letter III.	28	—, English, on the progressive Improvement of, from the Spanish cross	39
Letter IV.	107	Wounds, muscular, in horses, &c., (with recipes)	169
Letter V.	169		
Letter VI.	272	<b>Y.</b>	
Vinegar, prepared from the refuse of bee-hives	247	Yeast, experiment on the generation of	270
Vineyards, culture of in England, on the restoration of	89	York Agricultural Society, proceedings of the	225
<b>U.</b>		Yorkshire, East Riding, Show of Cattle, premiums for August, 1804,	380
Ulcers in Horses, on, (with recipes)	169	Young, Arthur, esq. his “Farmer’s Calendar,” (reviewed)	212
<b>W.</b>			
Waste land, calculation of, in the county of Middlesex and neighbourhood	324		
Waste lands, in Yorkshire, state of	167		
Water, a disease to which sheep are subject, recipe for the cure of	412		
Water, machine for raising, description of a, (with an engraving)	393		
Weeds, method of converting into manure	396		
Weld, on the culture of	98		
Westcar, Mr. his prize ox, description of, (with a plate)	81		

## ERRATA IN VOL. X.

- Page 10, line 31, for *carry* read *convey*.  
 67, for *since being* read *since mine being*.  
 13, 4, for *such gigantic* read *of such gigantic*.  
 41, 11, add *hint* between the words *first* and *from*.  
 12, for *filled* read *fitted*.  
 13, for *too* read *so*.  
 15, for *chain* read *man*.  
 42, 17, for *space* read *spaces*.  
 42, for *having* read *waving*.  
 43, 1, for *trod* read *two*.  
 6, for *trod* read *two*.  
 44, 29, for *procure* read *produce*.  
 32, for *plate to plate* read *plant to plant*.  
 85, 12, for *bead* read *load*.  
 86, 2, for *reign* read *regions*.  
 114, 28, for *corn* read *even*.  
 120, 12, insert *that of* between *than* and *the*.  
 122, 16, for *or* read *and*.  
 179, 13, for *or* read *on*.  
 181, 7, from the bottom, insert *as* between *and* and *it*.  
 194, 15, from the bottom, for *contaminous* read *enterminous*.  
 195, 10, for *evidently* read *considerably*.  
 22, for *account* read *amount*.  
 196, 26, for *even* read *ever*.  
 199, 8, for *known* read *bowever*.  
 283, 12, from the bottom, for *farmers* read *farmers*.  
 284, 6, for *frequently* read *generally*.  
 285, 7, for *farms* read *farmers*.  
 11, for *death* read *dearth*.  
 18, for *advert* read *adverted*.  
 20, for *observe* read *drew*.  
 333, between lines 27 and 28, from the bottom, insert the following,  
 " *Insisted on the divine indefeasible right of kings, with the prosperous and glorious reigns of the Princes of the House of Hanover, who*"  
 334, line 10, for *to* read *for*.  
 14, for *establishment* read *people*.  
 12, from the bottom, for *on* read *our*.  
 5, from the bottom, for *murmurs* read *discontents*.

















